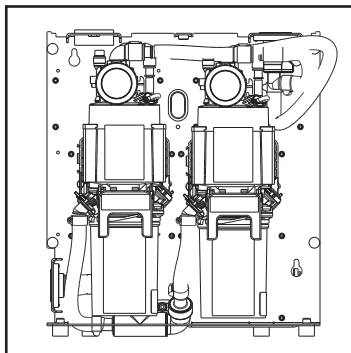


METASYS

GB Amalgam Separator COMPACT A8 / A16

**Installation, operation and
maintenance**



List of contents

Explanation of the pictograms

The groups of people for whom certain types of activities are relevant can be found in the footer.

1. Table of contents

	Page
1. Table of contents	2
2. Explanation of the pictograms	2
3. General Instructions	3
4. Use	4
5. Construction	4
6. Explanation of the type plate	4
7. Technical data	5
8. Functional description	5
9. Hose connections	6
10. Electrical connections	6
11. Explanation of the operating components	7
12. Exchange of collection container	8
13. Disposal of the full collection container	9
14. Care, cleaning and disinfection	10
15. Service mode	11
16. The annual inspection	12
17. The 5-year inspection	13
18. Connection COMPACT A8 / A16 to EXCOM Z2 / Z5	14
19. Disposal	14

2. Explanation of the pictograms



means that if the instructions are disregarded danger for people, operational problems or physical damage to the equipment or its immediate surroundings can occur.



means that the attention of operating or maintenance personnel is particularly drawn to important items in this section.

General Instructions

3. General Instructions:



The safety, reliability and performance of the equipment can only guaranteed by METASYS if the following instructions are followed:

- Installation, alterations or repairs must only be carried out by authorised specialists who guarantee compliance with standard IEC 601-1 (International Standard for Medical Electrical Equipment, particularly Part 1: General Safety Requirements).
- The electrical installation must correspond with IEC (International Electrotechnical Commission) requirements.
- The equipment must only be used in accordance with the installation, operation and maintenance instructions.
- Only genuine METASYS spare parts must be used for repairs or replacement.



After commissioning of the amalgam separator, the installation proof found in the Equipment Logbook must be completed and returned to METASYS in order to determine the guarantee period.

- Every service and inspection must be recorded in the Equipment Logbook.
- The disposal certificates for the amalgam waste must be retained in compliance with local legislation.
- If requested by a qualified technician, METASYS declares to provide all prepared documentation likely to be of use to the technically qualified person for service and repairs of the equipment's components.
- METASYS takes no responsibility for damage arising from external influences (inaccurate installation), incorrect information, use of the equipment for purposes other than the one intended, or for improper repairs.
- If the whole amalgam separator should be removed, it is to be returned to the manufacturer for proper disposal.

Use, construction, explanation of the type plate

4. Use

1 COMPACT A8 / 2 COMPACT A16

The METASYS COMPACT A8 / A16 is a two-stage amalgam separator for the installation after a central suction system with air/water separation.

5. Construction

The COMPACT A8 / A16 amalgam separator is composed of 3 modules:

Module 1 is the central fixing unit. Electrical and waste water connections are made here.

Module 1 contains the wall holder and the control electronics.

Module 2 is the centrifuge (the dynamic stage) and the sedimentation stage of the amalgam separation. Module 2 contains the filter housing with the filter drawer, the centrifuge and the collection container.

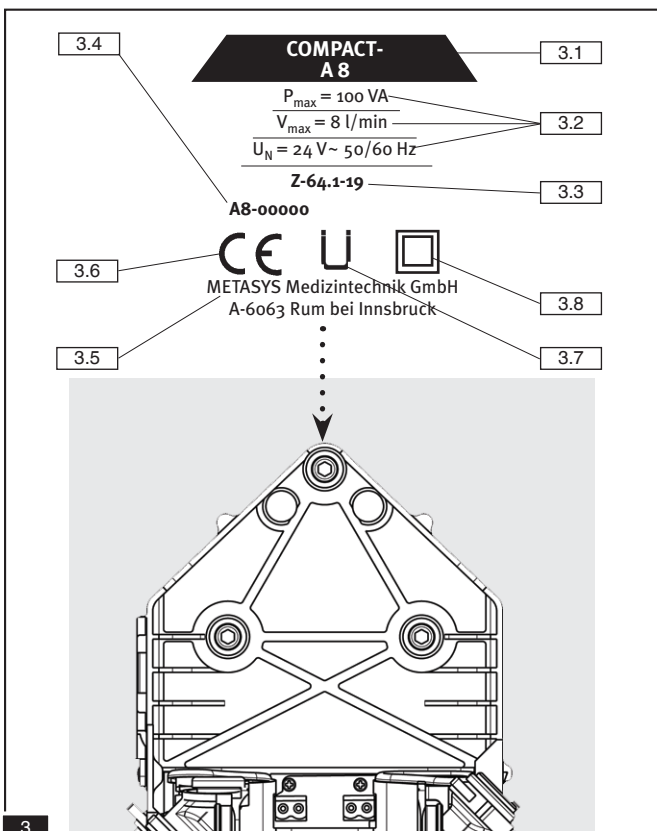
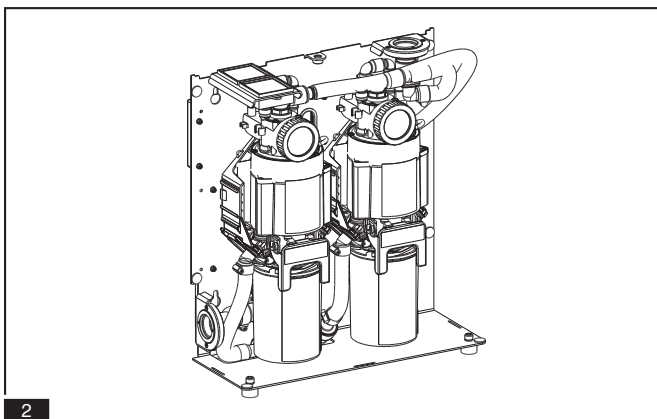
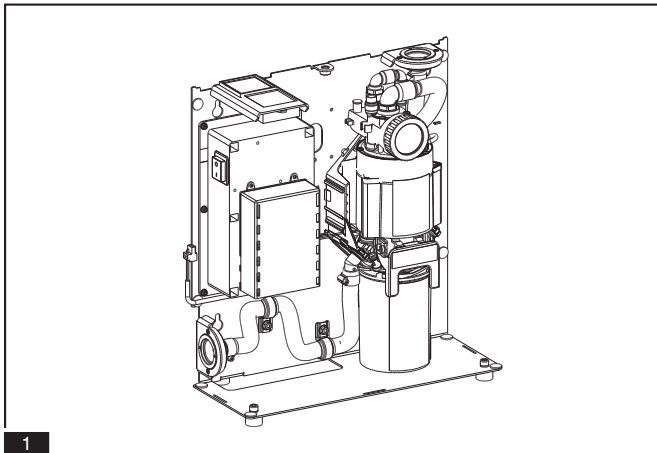
Module 3 is the wall mounting bracket with transformer, external display and main switch.

6. Explanation of the type plate

3 See illustration

The type plate is to be found on Module 1 and is visible when Module 2 is removed (to do this, lift the yellow locking bracket out of its fixing towards you).

- 3.1 Equipment designation
- 3.2 Connection data
- 3.3 Approval Number from the German Institute for Construction Technology
- 3.4 Serial number
- 3.5 Manufacturer's address
- 3.6 CE mark
- 3.7 UZVC conformity mark
- 3.8 Protection Class

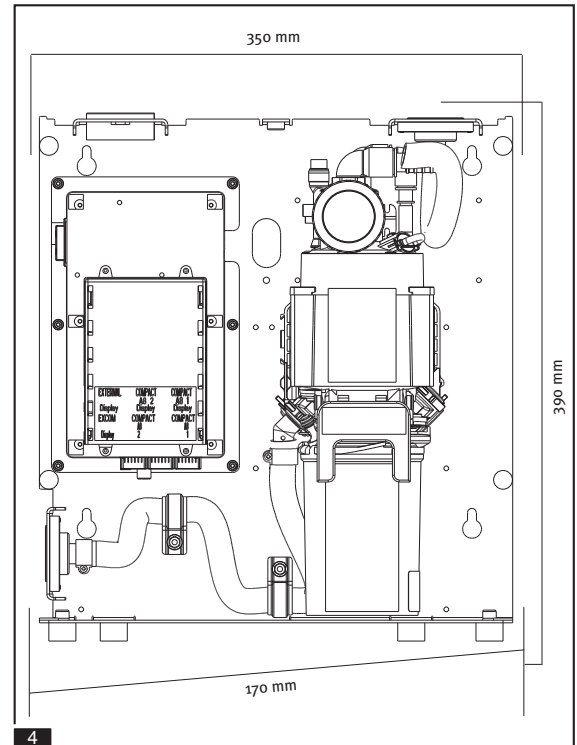


Technical data

Functional description

7. Technical data

	COMPACT A8	COMPACT A16
Supply voltage:	230 V AC	230 V AC
Frequency:	50/60 Hz	50/60 Hz
Maximum power consumption:	4 A	2 x 4 A
Equipment fuse:	6,3 A T	2 x 6,3 A T
max. power loading:	100 VA	2 x 100 VA
Separation rate:	≥ 95%	≥ 95%
Collection container:	300 cm ³	2 x 300 cm ³
Maximum ambient temperature:	40 °C	40 °C
Maximum water flow volume:	8 l / min	16 l / min (via the air/water separator)
Dimensions 4 in mm (H x W x D):	390 x 350 x 170	390 x 350 x 190
Possible suction systems:	dry vacuum engine with air/water separation, e.g. METASYS EXCOM central suction system	



8. Functional description

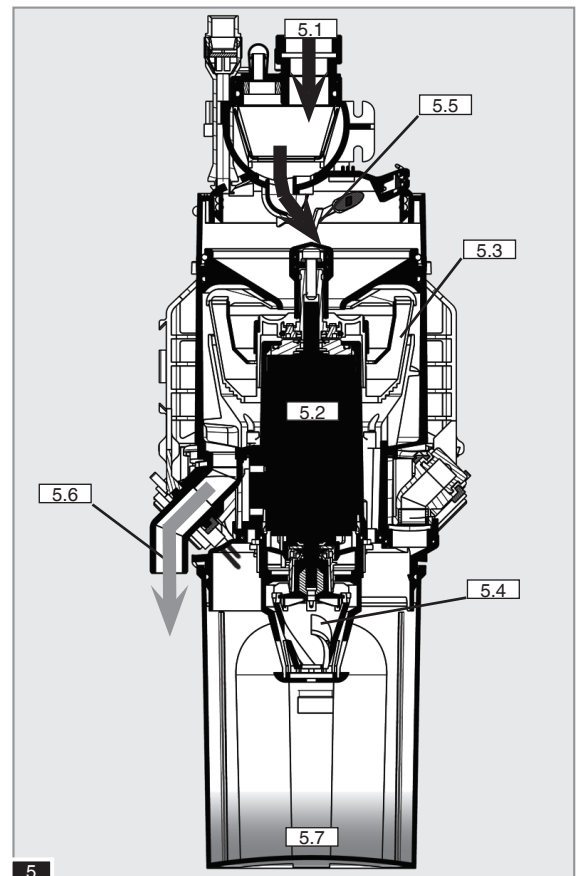
5 See illustration

The waste water from the air/water separation is inserted through the water inlet directly into the centrifuge via the filter with the filter drawer and the entry funnel **5.1**. The motor **5.2**, which drives both the centrifuge **5.3** and the pump **5.4** is started by a sensor contact **5.5** from the incoming water. The coarse particles are retained on the walls of the two interleaving centrifuge chambers.

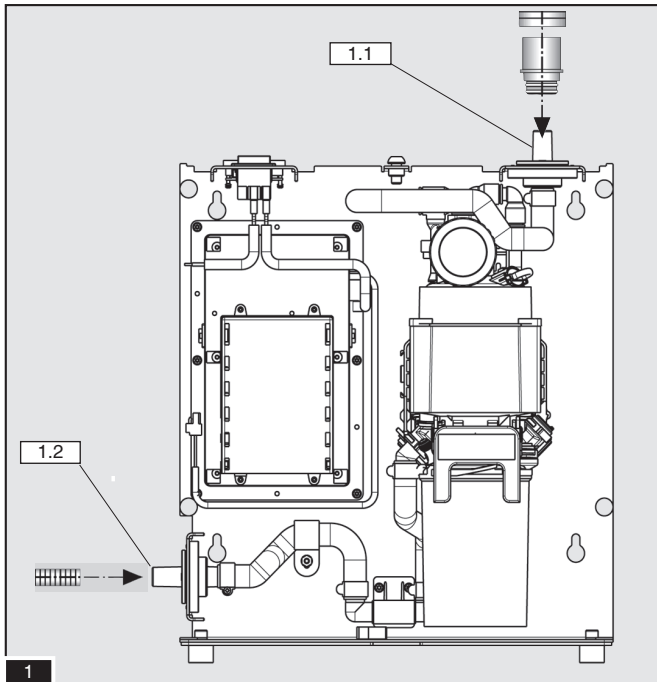
After purification, the water continuously runs into the outflow **5.6**. As soon as no more water enters the air/water separator via the filter, the motor is switched off and the centrifuge stops abruptly after a brief follow-up time.

The water column, which continues to rotate, has a self-cleaning effect on the centrifuge, which washes the coarse particles into the collection container **5.7**.

As soon as the liquid level in the collection container reaches the electrical area of the capacitive sensor, the motor starts once again, the water is pumped to the filter housing and the cycle begins once more.



Hose and electrical connections



9. Hose Connections

1 See illustration

1.1 Water inlet connection

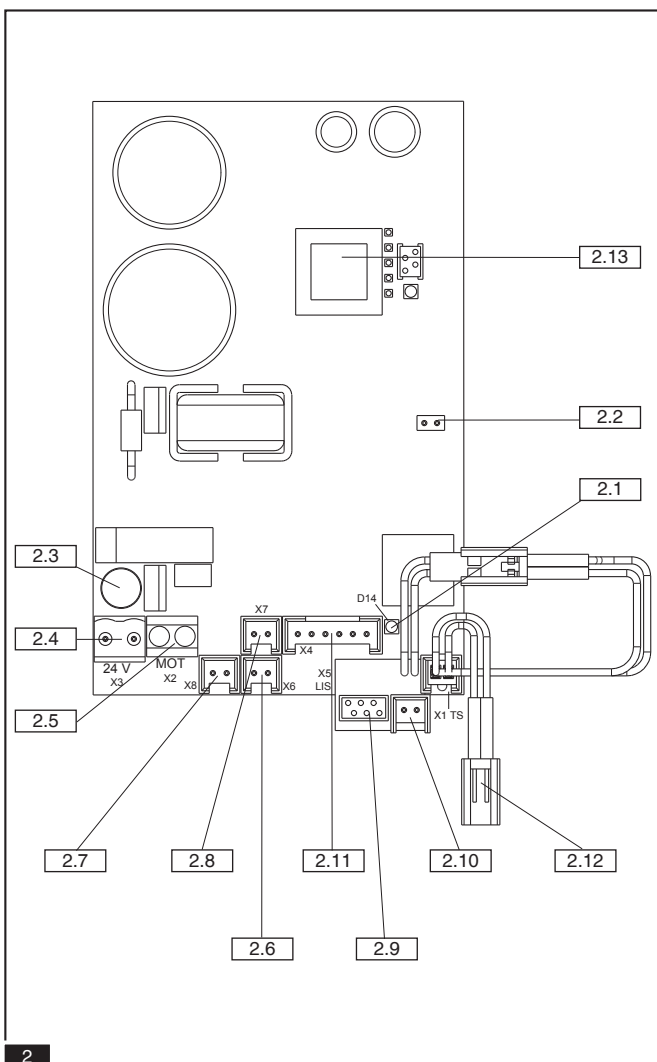
1.2 Water outlet connection

10. Electrical connections

Power supply connection:

Before connecting with the mains, the nominal voltage on the type plate on the equipment must be compared with the mains voltage.

In order to allow self-diagnosis, the COMPACT A8 / A16 must be switched off at least once per working day.



2 See illustration

2.1 D14 LED network (illuminated when current present)

2.2 J1 connected: sensor response normal
removed: sensor response sensitive

2.3 S1 Fuse T 6.3 A (**only replace with the same type**)

2.4 X3 24 V AC supply

2.5 X2 Motor connection (internal)

2.6 X6 **No function for COMPACT A8**

2.7 X8 **No function for COMPACT A8**

2.8 X7 **No function for COMPACT A8**

2.9 Connection for fill height measurement

2.10 Connection for the capacitive sensor

2.11 X4 Connection for external display – COMPACT A8

2.12 X1 **Only for COMPACT A8**
Connection for inlet sensor

2.13 Connection for processor

Operating components

11. Explanation of operating components

3 See illustration

3.1 **Signal 1: ready for operation**

☛ *illuminated green: mains current present*

3.2 **Signal 2: Centrifuge malfunction**

☛ *flashing red, buzzer sounding: malfunction!*

See illustration **4** - Malfunction displays

3.3 **Signal 3: Collection container level display**

☛ *illuminated yellow, buzzer can be switched off by pressing the RESET button: the collection container is 95% full.*

It is recommended to change the collection container now. However, it is possible to continue working until the indicator shows the collection container is 100% full. The indicator light continues to be illuminated as a reminder. The buzzer sounds again each time the main switch is switched on.

☛ *illuminated yellow, buzzer cannot be switched off by pressing the RESET button: the collection container is 100% full.*

The collection container must be changed. Further operation is not possible.

3.4 **Alarm – RESET button**

☛ The buzzer can be turned off by pressing on the red surface if the collection container is 95% full or in the case of an indicated malfunction.

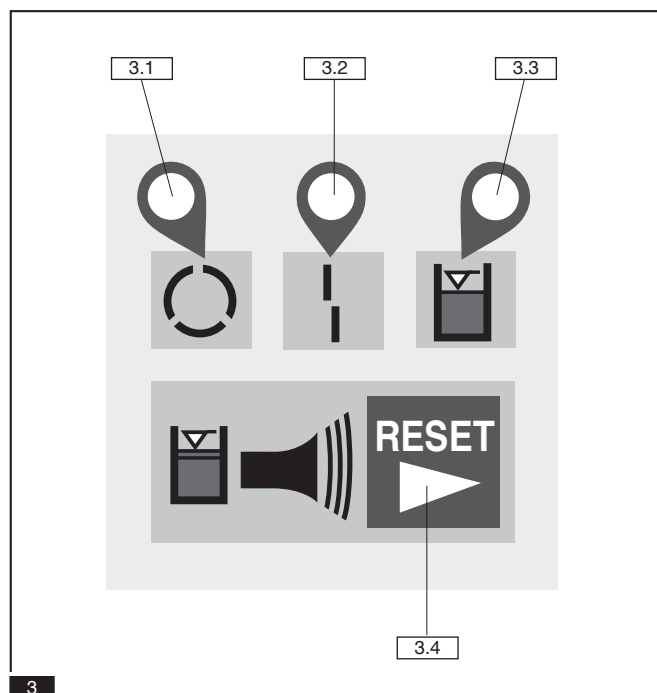
4 **Malfunction displays (see illustration)**

4.1 **Signal 1** **3.1** **1 illuminated green, signal 2** **3.2** **flashing red, buzzer sounding: electronic control malfunction!**

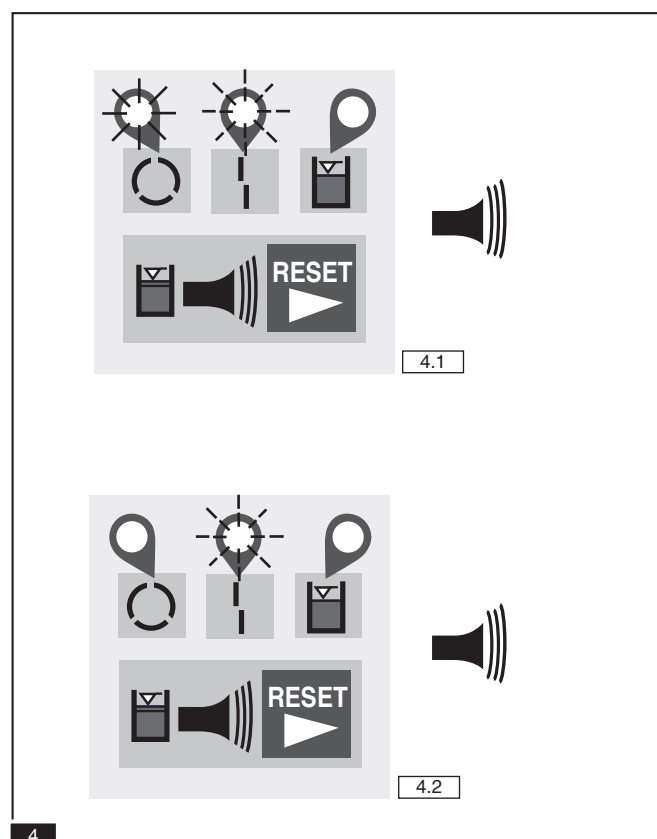
The buzzer is turned off by pressing the RESET button. In this case turn the device off with the main switch and turn it on again after a short pause (approx. 5 seconds). If the indicator lights are illuminated again after a short time, please inform your service technician.

4.2 **Signal 2** **3.2** **flashes red, buzzer sounds: The collection container is not positioned correctly!**

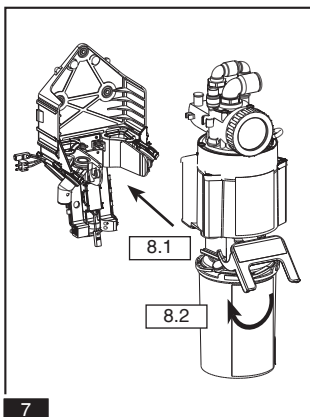
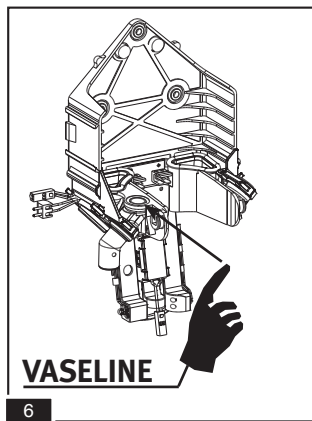
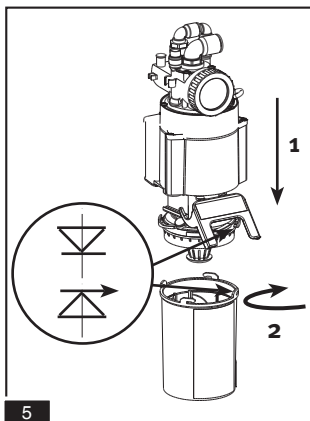
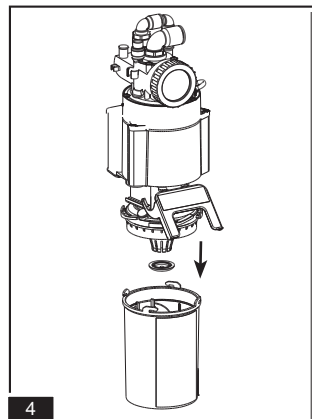
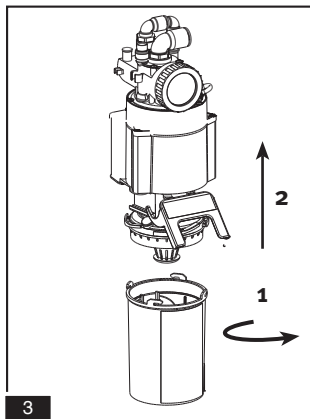
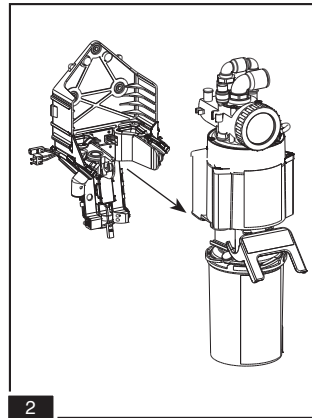
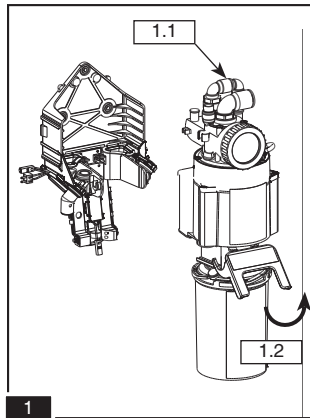
The buzzer cannot be turned off. No other signal is illuminated. Please follow the instructions in Point 12 in order to position the collection container correctly.



☛	= leuchten	☛	= blinken
	= permanent		= flashing
	= allumé		= intermittent
	= rimane accesa		= lampeggiare
	= encendido		= intermitente



Replacing the collection container



12. Replacing the collection container

► **Switch off the COMPACT A8 / A16 at the main switch**

► **Get a new collection container ready and remove the disinfection pouch from inside**

► **Put on protective gloves**

1 Disconnect the water connection **1.1**, holding the amalgam separator whilst doing so. **1.2** Lift the locking bracket on the amalgam separator and pull the amalgam separator out of its fixing towards you.

2 Pull the amalgam separator out so that it is completely free from its fixing and place it on a level, non-slip surface.

3 Hold the collection container firmly and turn the upper part anti-clockwise. Lift the upper part off.

4 If the pump filter is soiled, remove the filter and clean it over an amalgam collection container. Replace the filter on the pump inlet housing.

5 Place the upper part onto a new collection container. Hold the collection container firmly and turn the upper part clock-wise until its stop. Visually check that all stops on the collection container are properly positioned.

6 Grease sealing surfaces' holder with Vaseline.

7 Push the amalgam separator carefully back into the wall mounting bracket **8.1** and close the locking bracket **8.2**.
Re-connect the water inlets removed in Point 1.

► **Switch on the equipment's main switch.**

If the collection container has been properly inserted the amalgam separator starts and runs for a short period; the external display signals "ready for use" (signal 1 is illuminated green).

If the container has been inserted incorrectly, signal 2 on the external display flashes and a beep can be heard.

If this occurs, switch off the main switch and carefully repeat the procedure described above in Points 6 - 8.

Disposal of the full collection container by DENTAL ECO SERVICE

13. Disposal of the full collection container



*Wear protective gloves and possibly a face mask.
Avoid contact with collection container's contents.*

For technical and hygiene reasons, the collection container is designed to be used only once!

Re-use of the collection container can lead to operational problems and is in breach of the guarantee conditions.

The full collection container can be dispatched to our own disposal company, DENTAL ECO SERVICE GMBH – METASYS Group. Certificates of recycling must be retained in accordance with local legislation.

If the amalgam separator is to be removed at the end of its working life, it should be returned to the manufacturer for proper disposal.

The simplest way – disposal by ECOTRANSFORM.

9 See illustration

To disinfect the container before sending it off, open the disinfection sachet (enclosed with the new collection container) and pour its contents into the full collection container.

10 See illustration

Close the full collection container using the green lid (enclosed with the new collection container) by turning it clock-wise.

Check that it is properly sealed by turning it upside down. Re-fasten the lid if necessary.

11 See illustration

Place the properly closed collection container into the two halves of the Styrofoam shells of the postal packing.

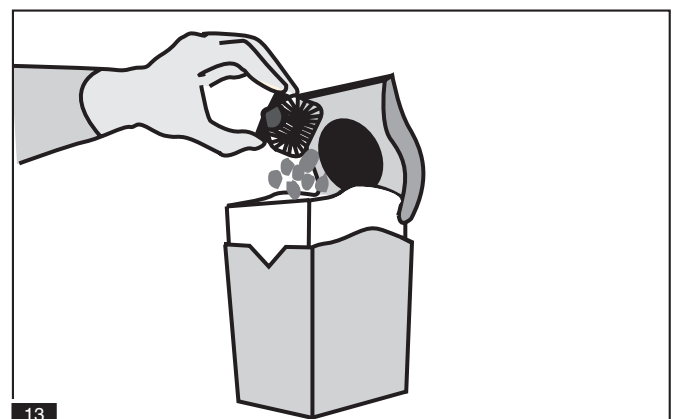
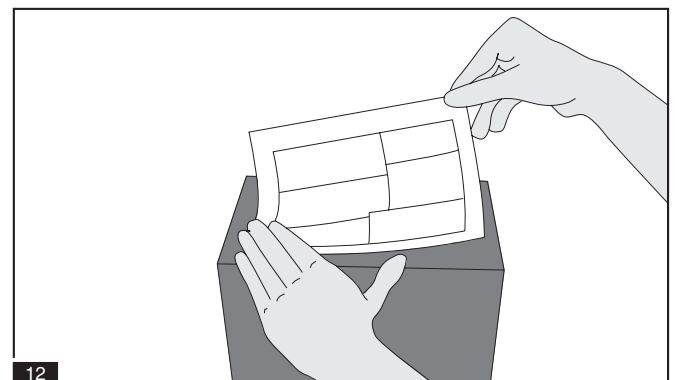
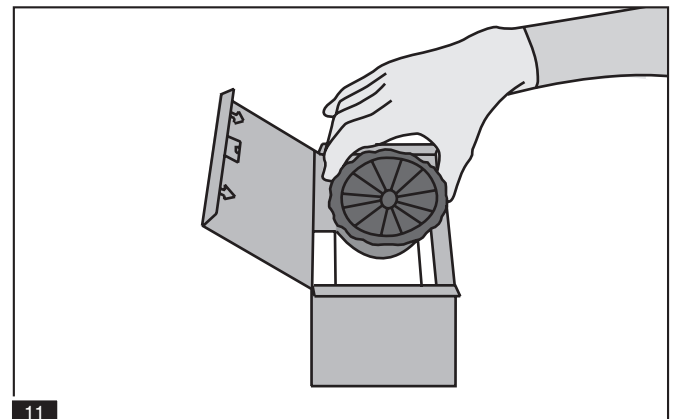
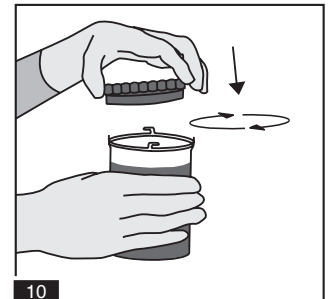
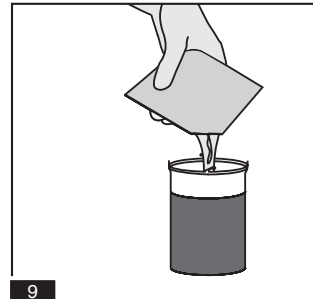
Close the package as in the attached instructions.

12 See illustration

Prepare the package for despatch by sticking the enclosed label onto it and return to DENTAL ECO SERVICE GMBH, or its national collection point.

13 See illustration

Dispose off the amalgam residues from the filters in the suitable container, e.g. ECOCENTER. Do not use the suction system to remove the residues from the filters.



Care, cleaning and disinfection with GREEN&CLEAN M2

14. Care, cleaning and disinfection

1 See illustration

Shortly flush spittoon bowl after each treatment.

2 See illustration

Suck some water through all suction hoses after every treatment.

3 See illustration

After having sucked some water, suck GREEN&CLEAN M2, the disinfectant suitable for the amalgam separator, twice a day.

Ideally, disinfectant should also be used after the equipment has remained unused for a while (e.g. lunch break, holidays).

4 See illustration

Also flush the spittoon bowl twice per day using GREEN&CLEAN M2, suitable for the amalgam separator.

Cleaning the filter

5 See illustration

Empty and clean the filter drawer **5.1** at least once a week.



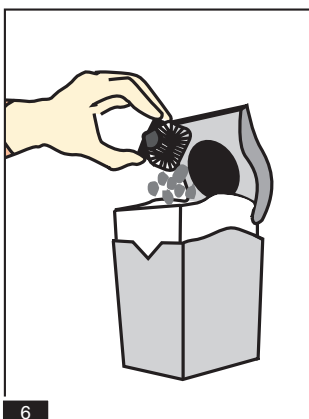
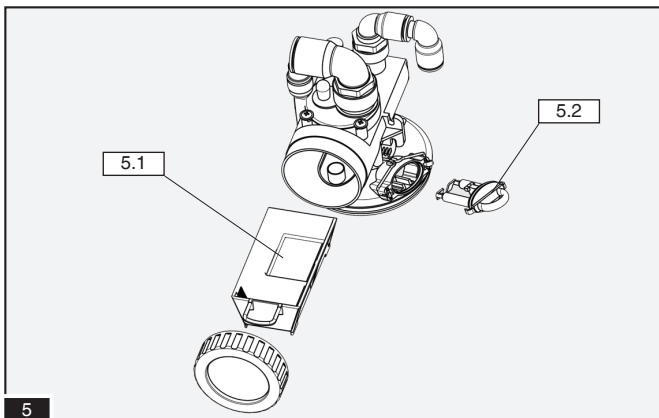
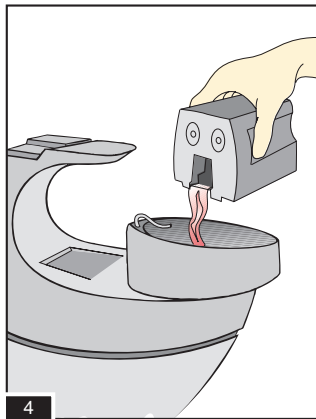
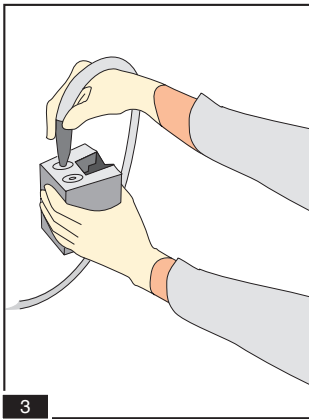
Operation of the amalgam separator without the filter is not permitted.

6 See illustration

Collect the residues containing amalgam from the primary filter in the suitable container EcoCENTER and dispose of them properly with EcoTRANSFORM.



If the amalgam separator is used for lengthy periods and does not switch itself off automatically, even though there is no water flow, the sensors are probably short-circuited due to dirt.



Service mode

15. Service mode

The COMPACT A8 / A16 amalgam separator electronics allow the equipment's functions to be checked using a service mode.



IMPORTANT! In order to enter normal operation or service mode after the equipment has been switched off, wait at least 5 seconds before switching it on again!

8 Entering the service mode

8.1 When switching the main switch on, depress the RESET button on the operating component for at least 5 seconds.

➔ **Signal 1 (ready for operation) flashes at twice its normal frequency (25 Hz)**

8.2 As soon as signal 1 **flashes**, release the RESET button

➔ **Signal 1 flashes very rapidly (25 Hz)**

▶ Press the RESET button briefly to start the motor

▶ The motor is stopped by pressing once again

In case of a malfunction of the motor monitoring system (short-circuit monitoring and monitoring of the running of the motor) the electronic systems will not allow the motor to start.

▶ The motor can be switched on and off at will by briefly pressing the RESET button

▶ Pressing the RESET button for approximately 5 seconds will change the service mode from motor monitoring to testing the inlets and outlets. (Release the RESET button after hearing a beep)

▶ **Signal 1 flashes; signals 2 and 3 are steadily illuminated**

Procedure for testing the inlets and outlets – see Point 16 of “Annual Inspection.”

▶ Press the RESET button once again for approximately 4 seconds to end Service Mode

➔ **Signal 3 flashes (25 Hz)**

The equipment switches from Service Mode to normal operation

➔ **Signal 1 is permanently on**

9 - 14 Please contact your service engineer if the following **malfunction** messages appear:

9 Malfunction in the short-circuit monitoring

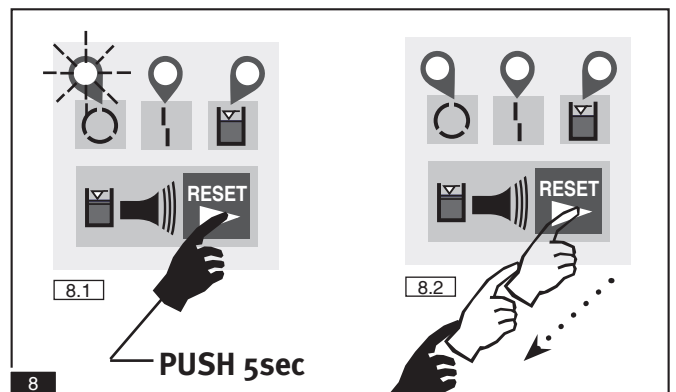
10 Malfunction in the monitoring of the running of the motor

11 Motor malfunction on starting

12 Current consumption of the motor when running is too high

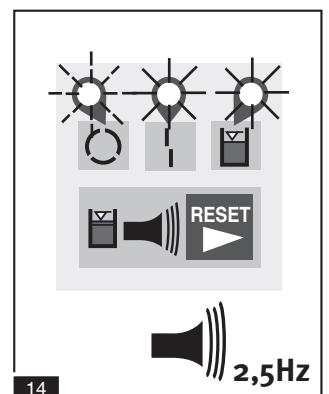
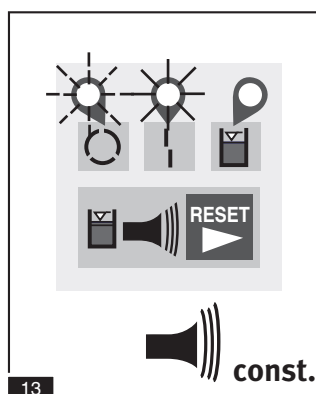
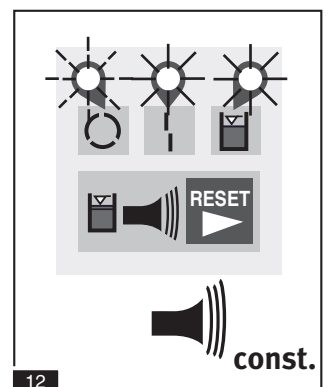
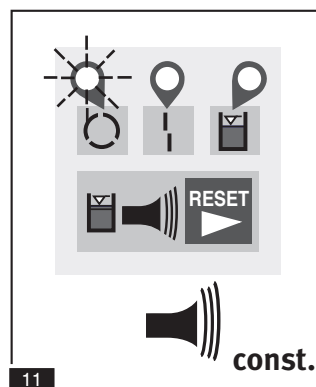
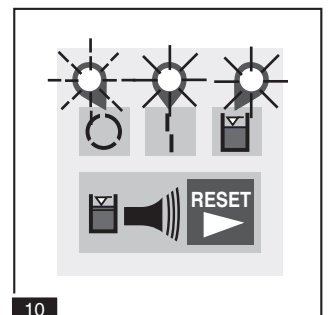
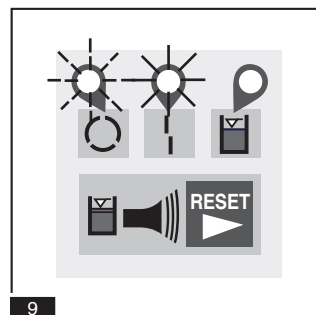
13 Power supply to motor interrupted

14 Short-circuit of motor power supply



= leuchten
= permanent
= allumé
= rimane accesa
= encendido

= blinken
= flashing
= intermittent
= lampeggiare
= intermitente



Annual inspection

16. The Annual inspection



According to the German Institute for Building Technology, the functioning of displays of amalgam separators should be checked at least once a year.

- Enter the service mode, as described in **Point 15**
- Start the motor at least once
- Switch to the checks for the inlet and outlet
- ➔ **Signal 1 flashes; signals 2 and 3 are continuously illuminated.**
- Remove the separator from the wall fixing

Display simulation

1 See illustration

1.1 Cover only the lower light barrier of the liquid level indicator.

➔ **Signals 1 and 3 flash. Signal 2 is permanently illuminated**

1.2 Cover only the upper light-barrier of the liquid level indicator.

➔ **Signals 1 and 2 flash, signal 3 remains permanently lit**

1.3 Cover both the light-barriers of the liquid level indicator.

➔ **Signals 1, 2 and 3 flash**

➤ Place the separator back into the wall mounting fixing.

2 See illustration.

2.1 Withdraw the inlet sensor and short circuit it with a wet cloth

➔ **The buzzer sounds**

- Replace the inlet sensor
- Press the RESET button once again for approximately 4 seconds to end Service Mode.

➔ **Signal 3 flashes**

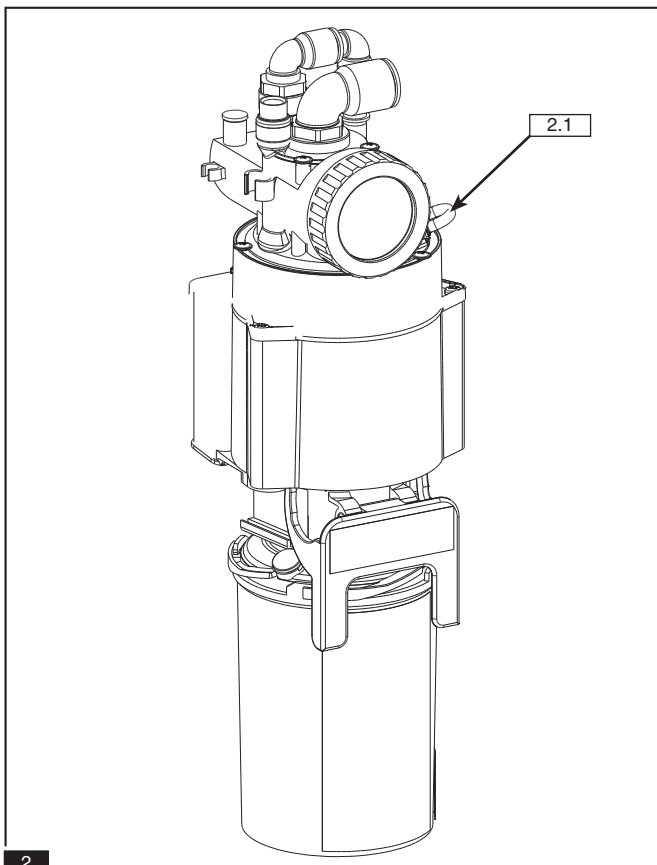
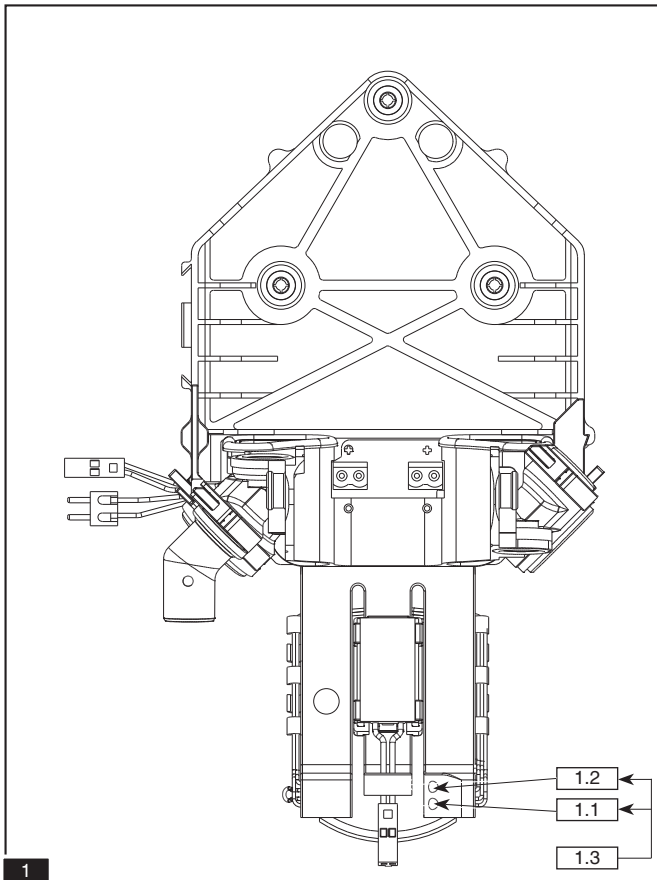
➔ **Signal 3 flashes (25 Hz)**

The equipment changes from Service Mode to normal operation

➔ **Signal 1 is permanently illuminated**

As a preventive maintenance measure we recommend the replacement of the following parts by an authorised service engineer during the annual inspection: all seals, pump filter, filter drawer.

The annual inspection must be recorded in the Equipment Logbook!



5-year inspection

17. The 5-year inspection:



Following the Waste Water Regulations, Appendix 50, amalgam separators must be checked in accordance with local legislation to ensure their good condition in intervals not exceeding 5 years.

- Carry out the annual inspection as described in **Point 16**.
- Check that the installation and connection of the amalgam separator is in good condition and meet the installation guidelines.
- Flush the suction hoses and the spittoon bowl using at least 1 litre of clean water, and with GREEN&CLEAN M2.

3 See illustration



Wear protective gloves. Ensure that the main switch is OFF.

- Remove the separator from the wall fixing (as described in Point 12, Sections 1 – 4)

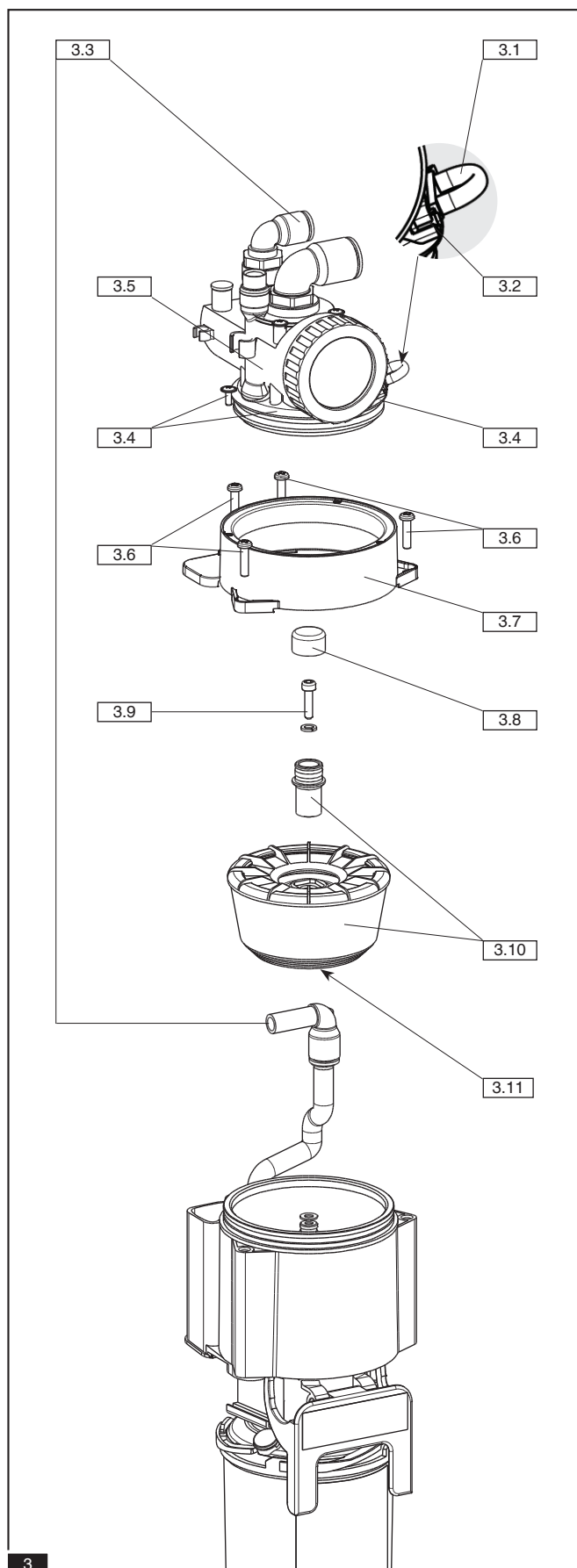
- 3.1 Remove the inlet sensor
- 3.2 Carefully remove the electrical contact for the inlet sensor using a suitable tool
- 3.3 Disconnect the pump hose
- 3.4 Remove the three screws on the upper side of the equipment using a suitable tool (Philips screw-driver)
- 3.5 Remove the filter housing
- 3.6 Remove the four screws on the upper part of the centrifuge using a suitable tool (Torx 20)
- 3.7 Remove the upper part of the centrifuge
- 3.8 Remove the sealing sleeve from the Z-clamps using a screwdriver
- 3.9 Remove the Philips head screw with the spring collar on the upper side of the Z-clamp with a suitable tool (Imbus). **IMPORTANT:** it has a left hand thread!
- 3.10 Remove the Z-clamp and the centrifuge chambers by pulling them upwards

Check the centrifuge chamber optically for dirt. Centrifuge chambers containing thick linings residues must be renewed.

- Re-assemble the equipment by following the above instructions, in the reverse order.

IMPORTANT! When re-assembling the amalgam separator make sure that the 4 lugs 3.11 on the centrifuge chamber's bottom are positioned in their intended holes. Care must also be taken that all screws are tightened up to their heads.

The 5-year inspection is to be entered in the Equipment Logbook!



Connection COMPACT A8 / A16 to EXCOM Z2 / Z5 Disposal

18. Connection COMPACT A8 / A16 to EXCOM Z2 / Z5:

1 Hose connections

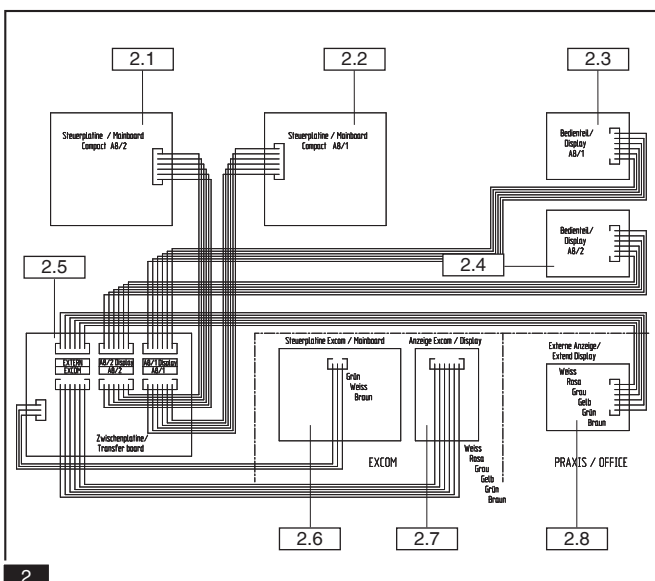
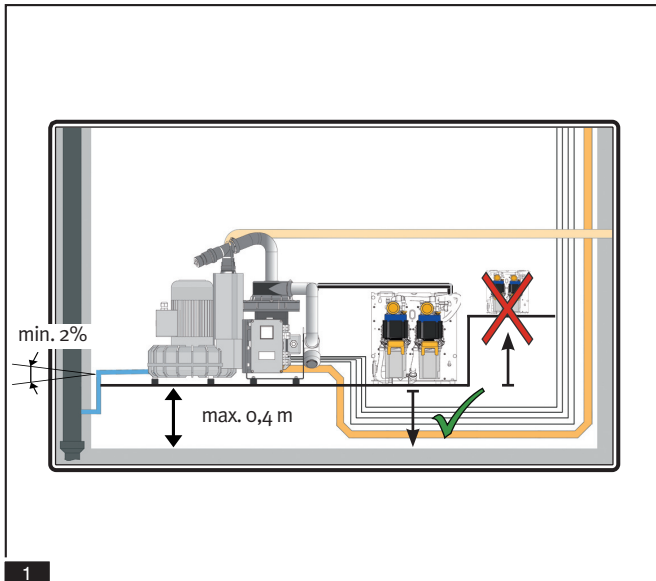
2 Electrical connections (connection operator's control/ display

- 2.1 Mainboard COMPACT A8/2
- 2.2 Mainboard COMPACT A8/1
- 2.3 Operating part A8/1
- 2.4 Operating part A8/2
- 2.5 Intermediate circuit board of COMPACT A8/A16 for connections
- 2.6 Mainboard EXCOM, cable 3-pole
- 2.7 Display EXCOM, cable 6-pole
- 2.8 External display, cable 6-pole

19. Disposal

Parts of the COMPACT A8 / A16 can be contaminated and amalgam can adhere to it. Therefore, these parts need to be disposed of in accordance with national requirements.

The electronic components of the COMPACT A8 / A16 are classified as electronic waste and need to be disposed of accordingly.



Notes

[illegible]



Austria

METASYS

Medizintechnik GmbH

Florianstraße 3

A-6063 Rum bei Innsbruck

☎ ++43 / (0) 512 / 20 54 20-0

☎ ++43 / (0) 512 / 20 54 20-7

Germany

METASYS

Medizintechnik GmbH

Ahornstraße 19

D-85614 Kirchseeon

☎ ++49 / (0) 89 / 613874-0

☎ ++49 / (0) 89 / 6135829

France

METASYS France S.a.r.l.

9, bd E. Michelet

F-69008 Lyon

☎ ++33/(0)4/37 90 22 15

☎ ++33/(0)4/37 90 22 47

e-mail: info@metasys.fr

www.metasys.fr

email: info@metasys.com

www.metasys.com

Italy



DENTAL ECO SERVICE ITALIA S.R.L.

Florianstraße 3

A-6063 Rum bei Innsbruck

☎ +39/045/981 4477

☎ +39/045/981 4475

e-mail: desitalia@metasys.com

Ihr METASYS Berater:/Your METASYS agent: