



ACCUVAC Basic

Aspirator

WM 10700

Service and Repair Instructions

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Introduction

For decades WEINMANN has been developing, manufacturing and marketing appliances for emergency medical treatment, oxygen therapy and inhalation therapy.

In 1986 WEINMANN launched the first ACCUVAC aspirator on the market.

The improved ACCUVAC Basic aspirator provides users with an appliance that is an indispensable aid in many emergency health care situations. The ACCUVAC Basic is primarily intended for oral or transtracheal aspiration of secretion. Aspiration is indicated in particular for tracheotomy patients undergoing respiration.

The indications include:

- Neuromuscular disorders, e.g. paraplegia, amyotrophic lateral sclerosis (ALS)
- Late symptoms of polio
- Muscular dystrophies
- Cystic fibrosis
- Kyphoskoliosis and posttubercular syndrome
- Chronic obstructive lung diseases, e.g. severe chronic bronchitis
- Pulmonary fibrosis, e.g. silicosis
- Other forms of alveolar hypoventilation

Using the ACCUVAC Basic aspirator gives the user more time to look after the patient and perform other measures.

The purpose of these Service and Repair Instructions is to make sure you as an **expert specialist** are familiar with the ACCUVAC Basic aspirator: its functionality and technology and how to repair it. Combined with training you have already received from WEINMANN, this makes you a member of the “authorized expert personnel” category, which means you can give your customers proper instruction, remedy faults independently, perform the final checks specified in the Operating Instructions, and carry out any repairs in accordance with these Service and Repair Instructions.

In the event of a warranty claim the ACCUVAC Basic aspirator is to be sent to WEINMANN.

So that we can process warranty claims or requests for generous treatment of complaints, please send the purchase receipt (invoice) with the appliance.

Repairs may only be carried out by WEINMANN or by expert personnel.

You are responsible for any repairs you make and for the relevant warranty!

Only **original WEINMANN spare parts** must be used for repairs.

Please remember:

Your customer trusts you and relies on your quality, just as you rely on WEINMANN.

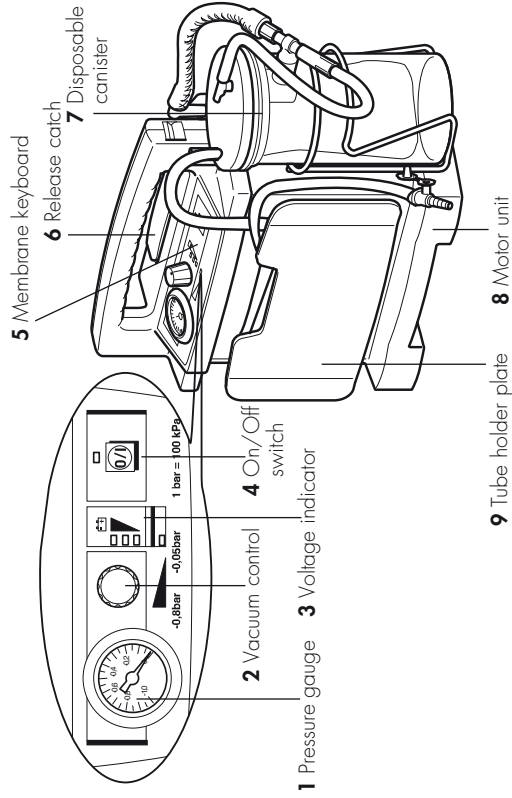
Note:

For the following information, please consult the ACCUVAC Basic Operating Instructions:

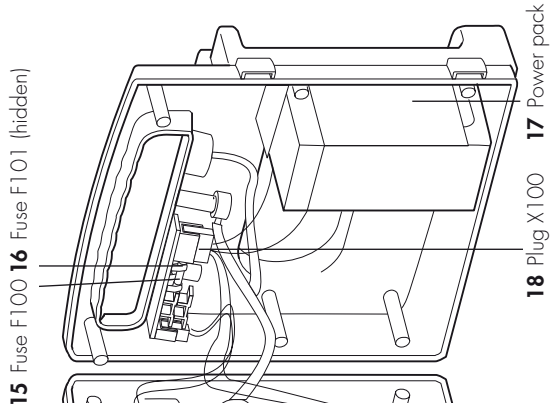
- Safety information
- Fitting accessories
- Operation
- Hygienic preparation
- Warranty

1. Overview

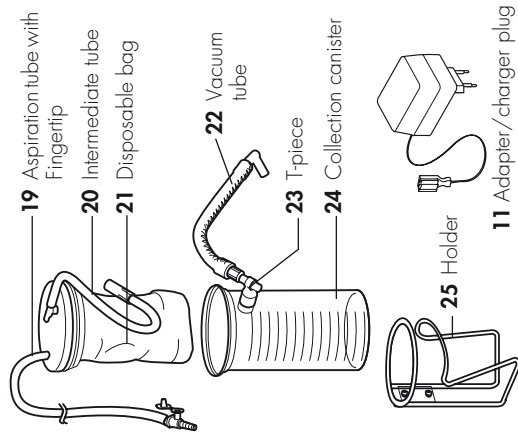
ACCUVAC Basic from front with disposable collection canister



ACCUVAC Basic interior

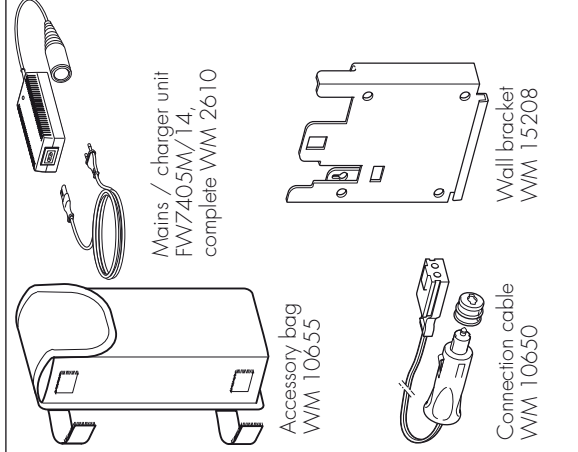
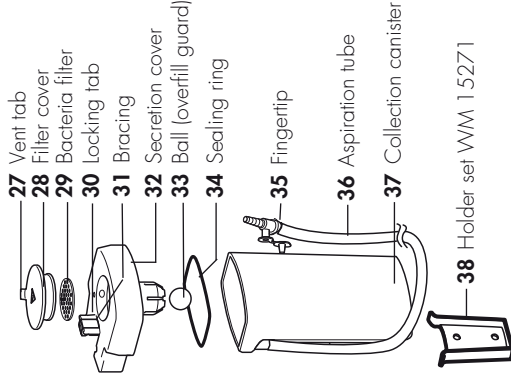


Disposable collection canister

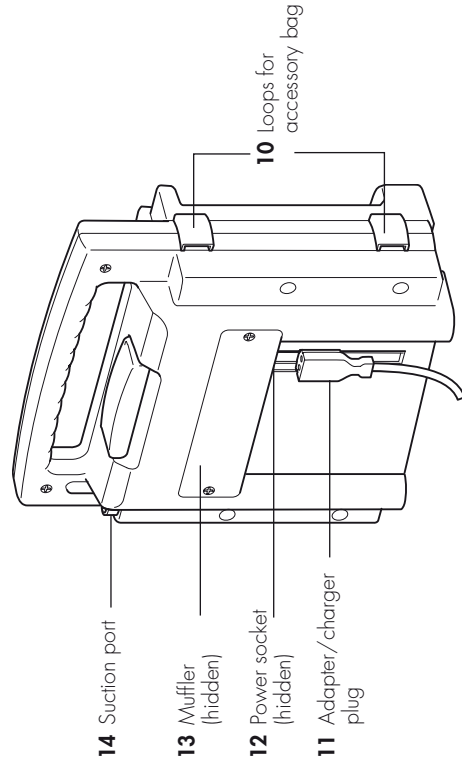


Accessories

26 Re-usable collection canister WM 15269



ACCUVAC Basic from rear without collection canister



2. Description

2.1 Purpose

ACCUVAC Basic is a mobile and portable electrically powered aspirator (suction pump).

It is used for:

- aspirating accumulations of blood, secretions and food from the oral cavity, the nose and throat region and the bronchial system;
- deflating vacuum mattresses and inflatable splints.

ACCUVAC Basic:

- can when used by a skilled operator eliminate obstruction of the respiratory tract and hence the risk of respiratory failure;

- cuts energy consumption by reducing power output on reaching the necessary vacuum;
- can optionally be powered by a rechargeable internal power pack;
- or by an external DC source supplying 12.0 - 13.8 V;
- is also suitable for use in wards.

ACCUVAC Basic must **not** be used:

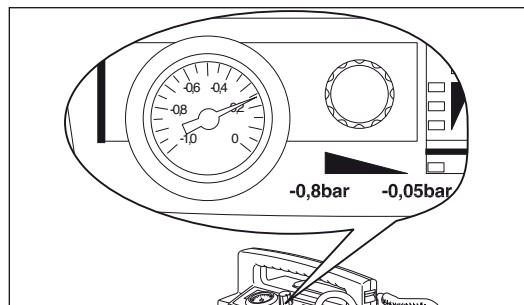
- in medical rooms where potential equalization is necessary (e.g. heart surgery);
- in explosion-risk areas.

2.2 Function

An electrically operated diaphragm pump generates the vacuum necessary for aspiration.

Use the vacuum control **2** to set the desired vacuum, which is continuously variable between -0.05 bar and -0.8 bar. You can read off the set value on the pressure gage **1**.

The aspirated material passes via the aspiration tube **36** into the disposable collection canister **7**.

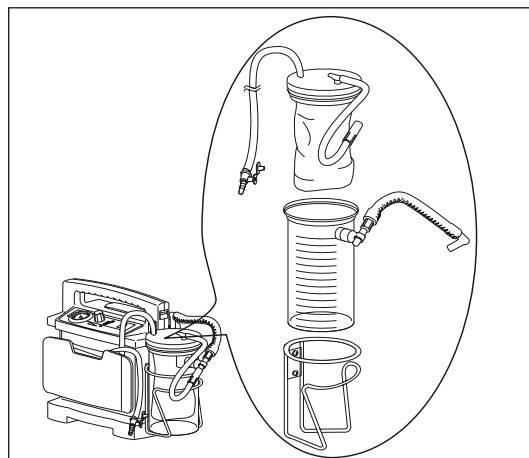


Disposable collection canister

The disposable collection canister **7** consists of the collection canister **24** itself, the disposable collection bag **21** with intermediate tube **20**, the aspiration tube with fingertip **19**, the T-piece **23** and the vacuum tube **22**.

The disposable collection canister **7** is inserted in the holder **25** screwed on the side of the motor unit **8**.

The vacuum tube **22** of the disposable canister **24** is pushed onto the suction port **14** of the motor unit **8**.



The aspirated material passes through the aspiration tube **19** into the disposable collection bag **21**. The disposable collection bag is intended for once-only use. When it is full, you can remove it from the collection canister **24** and dispose of it complete with contents.

An overflow valve filter is integrated in the disposable collection bag **21**. This prevents secretions and liquid from finding their way into the motor unit **8** and passing into the environment via the muffler **13**.

Power supply

Power for operating the appliance and charging the power pack can be drawn from:

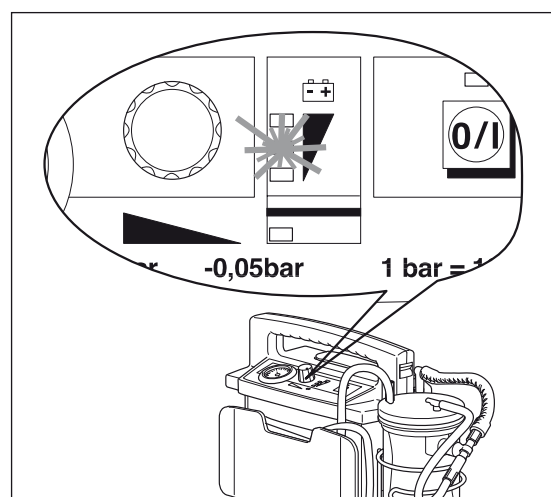
- the built-in power pack **17**.
- a 12-volt electrical cable system, using the connecting cable WM 10650 which is available as an accessory.
- the mains and charger unit WM 2645 which is available as an accessory.

Important!

The AC adapter/charger plug 11 supplied with the appliance is only designed for charging the power pack with the appliance switched off. It must not be used to operate the appliance itself, as this will overload it and cause it to overheat.

The voltage indicator **3** shows the charge status of the power pack.

Charging of the power pack starts automatically as soon as the appliance is switched off and connected to an external power supply (see "12. Technical Data" on page 27).

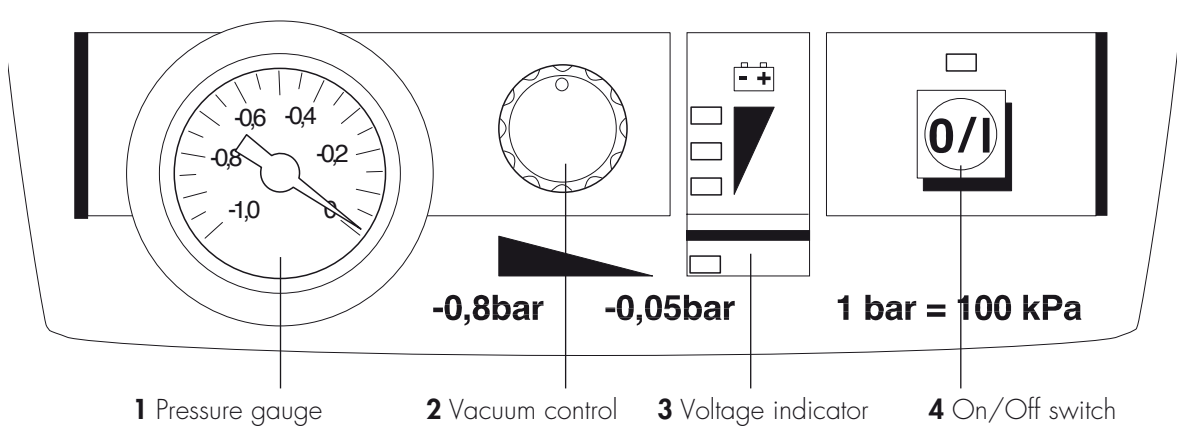


3. Operation

ACCUVAC Basic may only be used by trained staff instructed in aspiration techniques. Incorrect use can cause serious bodily harm.

Operation is described in the operating instructions.

4. Operating and Display Elements



5. Maintenance

The ACCUVAC Basic needs no maintenance, but please be sure to observe the intervals specified for regular final checks (see "6.1 Intervals" on page 8).

In the interests of maintaining power pack operation and life, we recommend you to calibrate the power pack every 8 weeks as described in

Section 8.1.2 of the instructions for use. This includes the required discharging and recharging of the power pack.

We recommend that you have any servicing, such as inspections and repair work, carried out by the manufacturer – WEINMANN – or by expert personnel.

5.1 Disposal



Do not dispose of the unit with domestic waste. For proper waste disposal of the equipment, please contact an approved and certified waste disposal site for electronic goods. Ask your Environmental Officer or town council for the address.

6. Functional checks

If the final check reveals defects or deviations from the specified values, ACCUVAC Basic must not be used again until the faults have been rectified.

We therefore recommend that you always keep a stock of the following:

- Disposable collection bag **21** WM 10732
- Aspiration tube with fingertip **19** WM 10733

6.1 Intervals

To ensure that a properly functioning ACCUVAC Basic is always available, it is essential to observe the following intervals.

Before every use

- Perform a functional check (see "6.2 Performing the functional check" on page 8).

After every use

- Clean, disinfect and/or sterilize the unit and its parts (see operating instructions "5. Cleaning and disinfecting");
- Perform a functional check (see "6.2 Performing the functional check" on page 8).

Every 3 months

- Check the charge level of the power pack **17** by switching on ACCUVAC Basic and reading the voltage indicator **3**. If the top LED of the voltage indicator does not light up, the power pack should be recharged (see operating instructions "4.4 Charging ACCUVAC Basic").

At least every 6 months

- Perform a functional check (see "6.2 Performing the functional check" on page 8).
- Make a visual inspection of the muffler for clogging. If it is clogged, fit a new muffler (see "8.14 Changing the muffler" on page 22).

After all repairs

- Clean, disinfect and/or sterilize the unit and its parts (see operating instructions "5. Cleaning and disinfecting");
- Perform a functional check (see "6.2 Performing the functional check" on page 8).

6.2 Performing the functional check

1. Assemble ACCUVAC Basic ready for use.
2. Check that all tubes and the individual parts of the disposable collection canister **7** are in perfect condition. Any damaged or worn parts must be replaced.
3. Check that all tubes are securely connected and the disposable collection bag **21** is firmly installed.
4. Switch on ACCUVAC Basic.
5. Check the charge level on the voltage indicator **3**. Always recharge the power pack without delay if the yellow LED on the voltage indicator lights up (see operating instructions "4.4 Charging ACCUVAC Basic").

6. **Battery test**

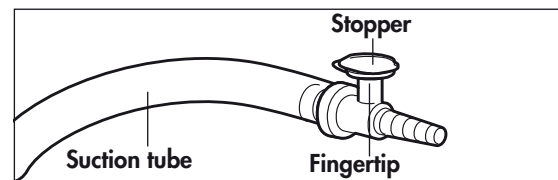
A battery test should always be performed when there are doubts about the performance of the rechargeable battery, however at the latest two years after the battery was last changed.

Procedure

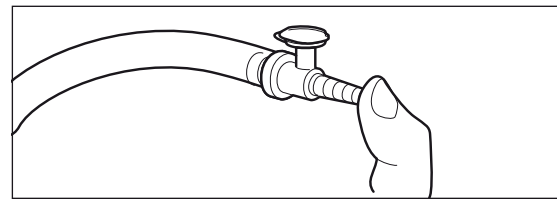
Charge the ACCUVAC Basic for 8 hours using the WM 2610 mains / charger unit FW7405M/14, complete or for 14 hours using the WM 10750 plug-in power supply unit. Set a short interval timer to 20 minutes and start the ACCUVAC. After an operating time of 20 minutes the red LED should not be lit up and the ACCUVAC should be in operation.

If the red LED lights up after 20 minutes, or the ACCUVAC is no longer working, the battery is spent and must be replaced. In this case please replace the battery as described in section 8.6.

7. Insert the stopper in the fingertip **19**.

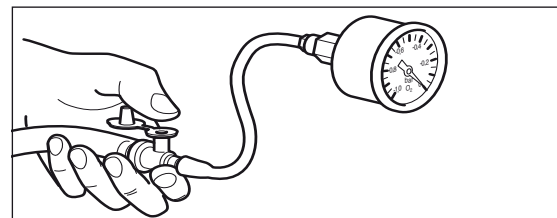


8. Use your thumb to hold the suction nozzle closed.
9. Switch on the aspirator and select the maximum vacuum of -0.8 bar by turning vacuum control **2** fully to the right. ACCUVAC Basic must reach this vacuum in not more than 20 seconds.



If the aspirator takes longer than 20 seconds to reach this vacuum, this means its suction capacity is reduced. Check for possible faults (see "7. Troubleshooting" on page 10).

10. Attach the test pressure gauge 0 to -1 bar WM 15294 to the fingertip.
11. Check the maximum vacuum for accuracy with test pressure gauge 0 to -1 bar. The vacuum must be -0.8 bar, tolerance ± 0.04 bar.
12. Remove the test pressure gauge from the fingertip.
13. Switch ACCUVAC Basic off again.



7. Troubleshooting

Fault	Cause	Localize fault	Remedy
Appliance does not start, O/I indicator and voltage indicator show ready for operation	Faulty pump	Connect pump to functioning circuit board and switch on. If pump does not run, fit new pump (8.12, page 21)
	Circuit board defective	Connect circuit board to functioning pump and switch on. If pump does not run, fit new circuit board (8.9, page 18)
	Fuse F100 or F101 in appliance defective		Fit new fuse (8.7, page 17)
	Fuse in vehicle plug defective		Fit new fuse (8.13, page 22)
	Power pack fully discharged		Perform several charge/discharge cycles. If unsuccessful, fit new power pack (8.6, page 16)
Appliance does not start, O/I indicator does not show ready for operation	Incorrect polarity of vehicle power socket		Correct polarity and if necessary replace fuse F1 (8.7, page 17)
	Snap-in connection between circuit board and power pack not properly engaged		Make sure connection snaps in
	Leak in suction side of appliance	Disconnect secretion container from pump unit. Switch on pump and run at a setting of 0.8 bar. Hold thumb over suction port. The maximum vacuum is reached within 5 sec. and the pump stops. If the pumps starts up again within 10 to 20 sec., the leak is in the pump unit.	Check that all tubes are firmly connected and disposable bag is securely installed
	Power pack not sufficiently charged	Connect mains / charger unit FW7405M/14, complete VM 2610. If the pump now runs much more "powerfully" than with the power pack, you must charge power pack (operating instructions 4.4, page 16)
	Fault in pump	Connect pump to functioning circuit board and switch on. If pump does not run, fit new pump (8.12, page 21)
No vacuum is generated No reading on pressure gage	Muffler clogged		Fit new muffler (8.14, page 22)
	Vacuum regulator defective		Fit new vacuum regulator (8.11, page 20)

Fault	Cause	Localize fault	Remedy
Battery does not recharge	Inadequate external power supply		External power supply must be between 12.0 V and 13.8 V
	Fuse F100 or F101 defective		Fit new fuse (8.7, page 17)
	Fuse in vehicle plug defective		Fit new fuse (8.13, page 22)
	Snap-in connection between circuit board and power pack not properly engaged		Make sure connection snaps in (8.8, page 18)
Power pack is not fully charged up despite charging for 14 hours (top LED in voltage indicator does not light up)	Charger does not meet specifications		Use AC adapter/charger plug WM 10750 or charger WM 2610 (accessory)
	Vehicle electrical system is not supplying 12.0 – 13.8 V		Check vehicle electrical system
	Power pack damaged by being fully discharged		Fit new power pack (8.6, page 16)
	Power pack at end of service life		
Top LED of voltage indicator lights up after charging, but pump does not run when powered by power pack	Internal connection faulty		Check internal connection between printed circuit board (X100) and power pack (8.8, page 18)
	Fuse F101 defective		Fit new fuse (8.7, page 17)
Fuse F2 frequently blows	Pump is often switched on under vacuum conditions		Do not switch on pump under vacuum
	Pump defective		fit new pump (8.12, page 21)

8. Repairs: Information and Instructions

8.1 General

An ESD workplace is essential for making repairs to the ACCUVAC Basic.

No work should be performed on the appliance without a detailed knowledge of the Operating Instructions and the Service and Repair Instructions, which must always be complied with.

ACCUVAC Basic is only intended for the purpose described (see "2.1 Purpose" on page 5).

When replacing components or individual parts, be sure to use only original WEINMANN parts.

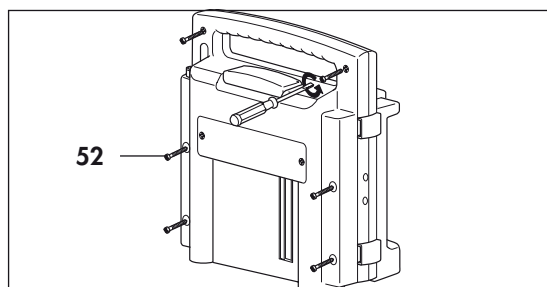
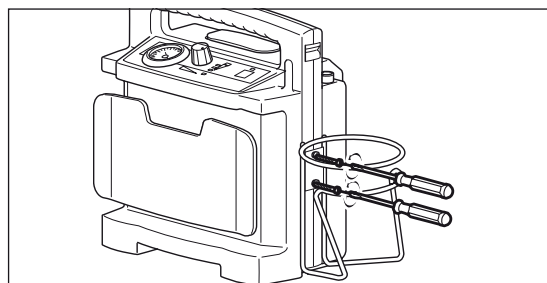
A functional check (see "6.2 Performing the functional check" on page 8) must be performed after every repair.

When ordering the rear part of the case, please state the appliance type, appliance number and year of manufacture.

8.2 Opening the device

Tools and equipment required:

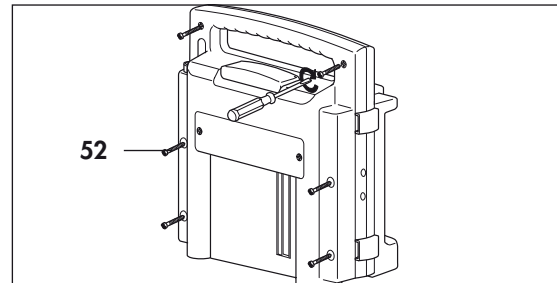
- Phillips screwdriver size 2
1. Switch off ACCUVAC Basic.
 2. Disconnect the aspirator from the external power supply.
 3. Remove collection canister **7** and any accessories.
 4. Unscrew the holder **25** for the disposable collection canister **7**.
 5. Open the case by unscrewing the 6 cross-head screws **52**. When opening the case, be careful not to damage the silicone sealing cord.
 6. Carefully pull the front and rear case elements apart.



8.3 Closing the device

Tools and equipment required:

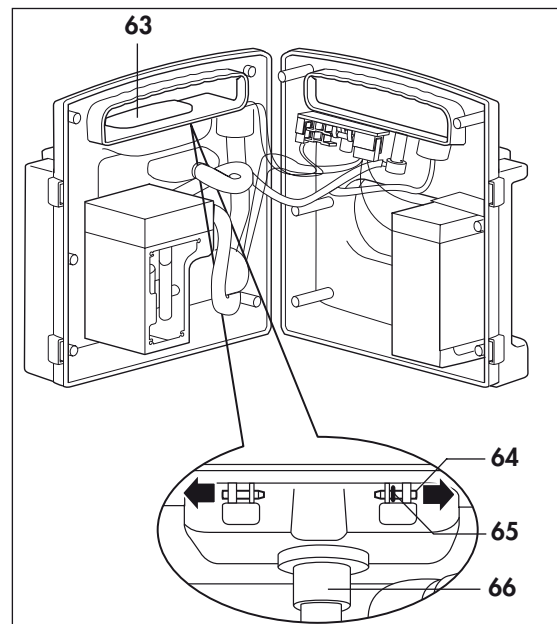
- Phillips screwdriver size 2
1. Carefully put the front and rear case elements together again.
 2. Screw the case together again, making sure the silicone sealing cord is correctly inserted and is not jammed or otherwise damaged.
 3. Perform a functional check (see "6.2 Performing the functional check" on page 8).



8.4 Replacing release catch

Tools and equipment required:

- Phillips screwdriver size 2
 - Screwdriver, size 1 ;
 - Flat or pointed pliers.
1. Open the device (see "8.2 Opening the device" on page 12).
 2. Place the ACCUVAC Basic on its front.
 3. Push out retaining pins **64** from release catch **63** and remove them.
 4. Remove the old or defective release catch **63**. To do so, use a flat / blunt object to press down snap lock **66**, which is located below release catch **6**.
 5. Take the new release catch **63** and insert it in the rear wall of the case.
 6. Take O-ring **65** and locate it in the rear wall of the case between the loops of the release catch and the rear wall attachment point.
 7. Take the retaining pins **64** and insert them in the bushing from outside to inside until you hear them click into place.
 8. Close the device (see "8.3 Closing the device" on page 13).
 9. Perform a functional check (see "6.2 Performing the functional check" on page 8).

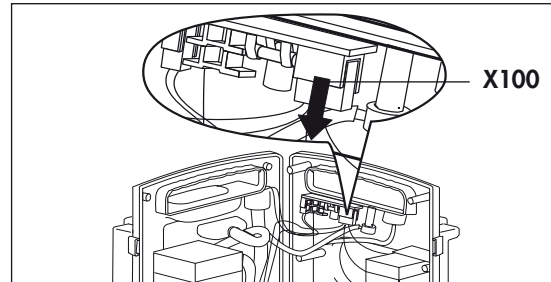


8.5 Replacing membrane keyboard

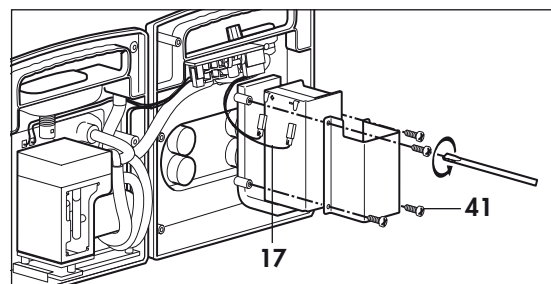
Tools and equipment required:

- Phillips screwdriver size 1;
- 7mm open-end wrench.

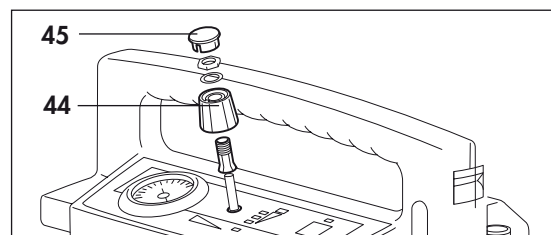
1. Open the device (see "8.2 Opening the device" on page 12).
2. Carefully disconnect the power pack connector **18 (X100)** from the circuit board.



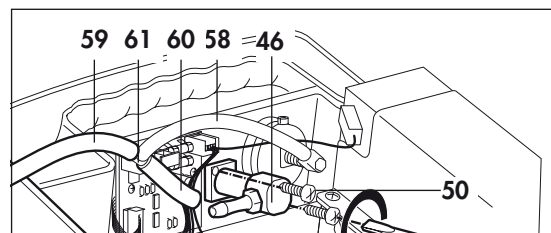
3. Unscrew the power pack holder (4 cross-head screws **41**).
4. Detach both leads from the power pack **17**.
5. Remove the power pack.



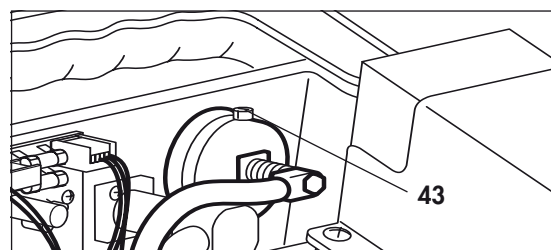
6. Carefully remove cap **45** of knob **44**, p.ex. à using a razor blade (for example).
7. Slightly loosen the nut on the adjuster knob and pull the adjuster knob off the regulator unit.



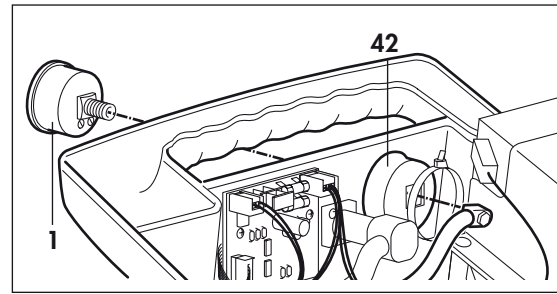
8. Carefully pull tube **58** off regulator unit **46**.
9. Use a 7mm open-end wrench to unscrew the tube connection from the pressure gauge.



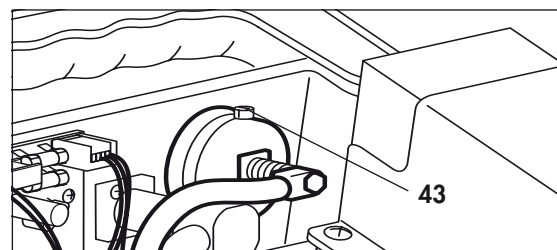
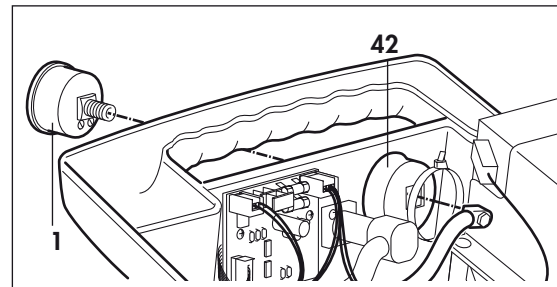
10. Cut open cable tie **43** (locking strip).



11. Carefully push pressure gauge **1** upward out of resilient ring **42**.
12. Remove resilient ring **42**.

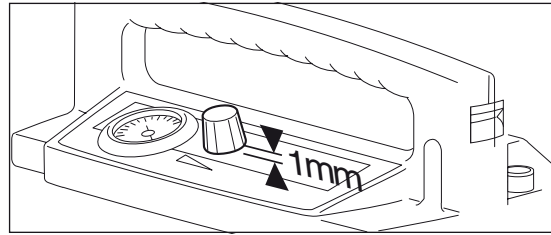


13. Disconnect the electrical power pack connectors **X100**, **X101** and **X103** from the board.
14. Detach the front keyboard from inside through the front of the case, by pressing the membrane keyboard out upwards and carefully pulling it off.
15. Clean the old adhesive area until no adhesive residues are left.
16. Take the new membrane keyboard **5** and remove the protective layer from the adhesive surface. Run the ribbon cable through the opening in the case front.
Take care when inserting the ribbon cable through the opening in the housing; it must be properly routed without any kinks.
17. Stick the new membrane keyboard **5** in the correct position on the case.
18. Pull the protective film off the new membrane keyboard.
19. Insert resilient ring **42** in the front of the case again.
20. Using a little methylated spirits, carefully insert the new pressure gauge **1** downwards into the resilient ring **42** (making sure to align it correctly). Roll the rubber cuff onto the pressure gauge with your fingers.
21. Secure the pressure gauge by fitting cable tie **43** around the resilient ring.

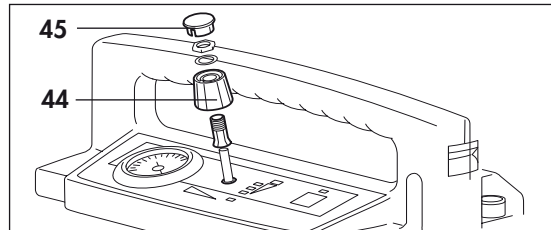


22. Insert the board again and screw it up firmly.
23. Carefully restore the electrical connections **X100**, **X101** and **X103**.
24. Carefully push tube **58** onto the regulator unit.
25. Attach the tube connector to the pressure gauge using a 7mm open-end wrench.
26. Insert the power pack again and screw it firmly in place.

27. Make the electrical connections to the power pack.
28. When replacing the knob, ensure that the gap between knob and keyboard membrane (with the spindle screwed in) is approx. 1.0 mm.



29. Use a 10 mm tubular wrench to tighten the nut securing knob **44**.
30. Insert cap **45** (slit in cap must match ridge in knob).



31. Close the device (see "8.3 Closing the device" on page 13).
32. Perform a functional check (see "6.2 Performing the functional check" on page 8).

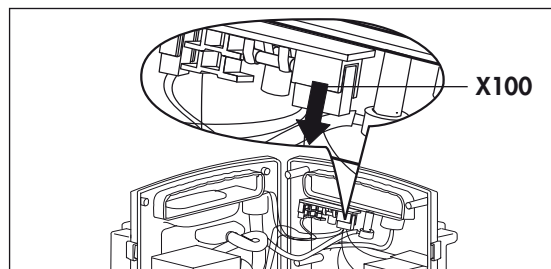
8.6 Changing power pack

ACCUVAC Basic is fitted with a high-grade lead cell power pack.

Tools and equipment required:

- Phillips screwdriver size 2.

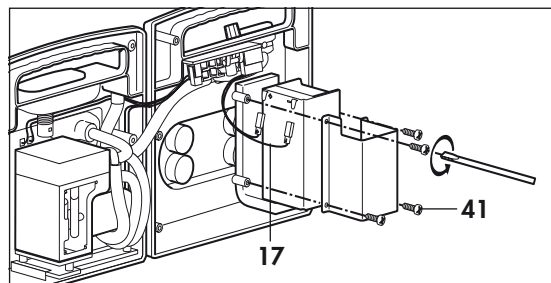
1. Open the device (see "8.2 Opening the device" on page 12).
2. Carefully disconnect the power pack connector **18 (X100)** from the circuit board.



3. Unscrew the power pack holder (4 cross-head screws **41**).
4. Detach both leads from the power pack **17**.
5. Remove the faulty power pack.

Help protect the environment!

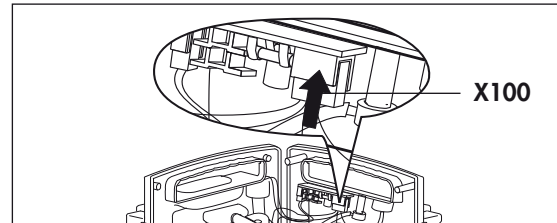
Don't throw the old power pack in the garbage can – take it to a local collection point for environment-friendly disposal.



6. Attach the two cables to the connections on the new power pack: **red to plus; black to minus**.

If you accidentally reverse the connections, the electronic system will be protected by fuse **16 (F2)**, which will then have to be replaced.

7. Fit the new power pack with its holder, making sure you do not jam any cables.
8. Carefully push power pack connector **18 (X100)** onto the circuit board until it snaps into place.



9. Close the device (see "8.3 Closing the device" on page 13).
10. Perform a functional check (see "6.2 Performing the functional check" on page 8).

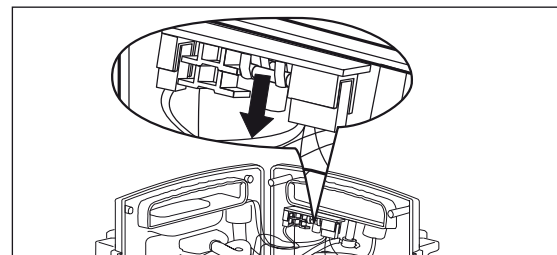
8.7 Changing fuse F1 or F2

Important!

Avoid touching the electronic components on the circuit board, as this could damage them (electrostatic charge).

Tools and equipment required:

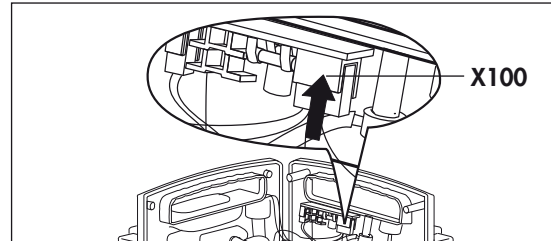
- Phillips screwdriver size 2.
1. Open the device (see "8.2 Opening the device" on page 12).
 2. Remove the faulty fuse **15/16**. The fuses are identified on the circuit board.
 3. Insert a new fuse. Always use approved fuses (see "12. Technical Data" on page 27).
 4. Close the device (see "8.3 Closing the device" on page 13).
 5. Perform a functional check (see "6.2 Performing the functional check" on page 8).



8.8 Check connector between circuit board and power pack

Tools and equipment required:

- Phillips screwdriver size 2.
1. Open the device (see "8.2 Opening the device" on page 12).
 2. Check connector **X100**.

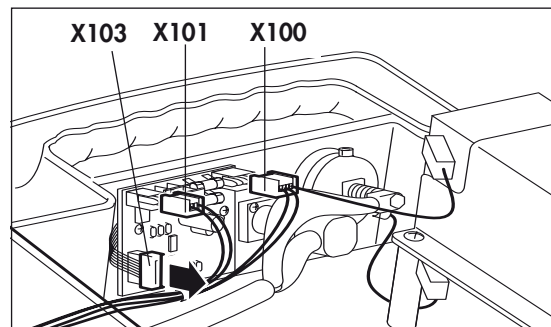
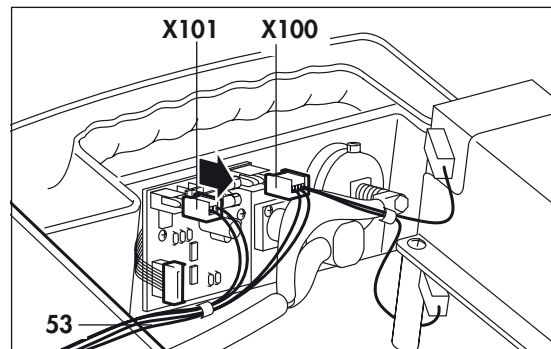


3. Close the device (see "8.3 Closing the device" on page 13).
4. Perform a functional check (see "6.2 Performing the functional check" on page 8).

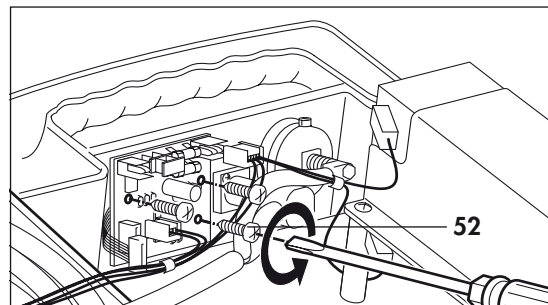
8.9 Fitting new circuit board WM 10780

Tools and equipment required:

- Phillips screwdriver size 2.
1. Open the device (see "8.2 Opening the device" on page 12).
 2. Carefully remove the electrical power pack connectors **X100** and **X101** of wiring harness **53** from the circuit board.
 3. Carefully open up cable grip of ribbon cable connector **X103**. Then carefully remove ribbon cable (do not touch the ribbon cable contacts with your fingers, as this can cause oxidation).



4. Unscrew circuit board (3 screws **52**).



5. Insert the new circuit board in reverse order.

Important!

The lengths of tubes WM 10766 and WM 10765 are not compatible with all circuit boards. The overview below shows you the cases in which you will have to adapt the length of the tubes:

Old circuit board	New circuit board	Action
WM 10780 Index \leq C	WM 10780 Index \leq C	No modification required
WM 10780 Index \leq C	WM 10780 Index $>$ C	Use tubes with new lengths: – WM 10766 Index $>$ a (42 mm instead of 50 mm) – WM 10765 Index $>$ a (208 mm instead of 200 mm)
WM 10780 Index $>$ C	WM 10780 Index $>$ C	No modification required

Carefully connect electronic power pack connector **X101**. Then route connecting cable so it does not come into contact with the pump.

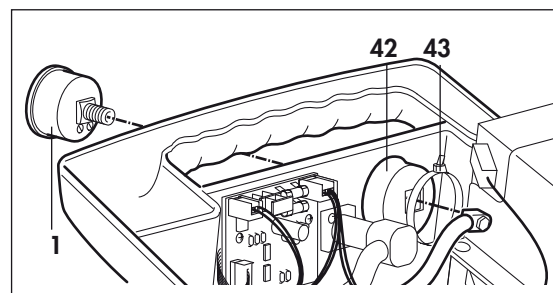
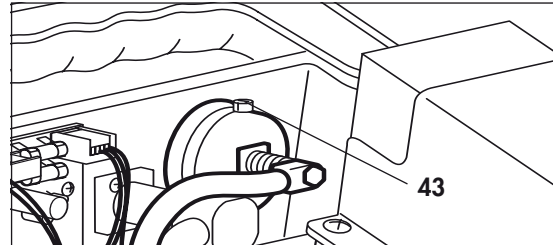
Important:

- Do not connect electrical power pack connector **X100** yet.
 - **Wait half a minute to allow the capacitors on the circuit board to discharge.**
6. Carefully connect the electrical power pack connector **X100**.
 7. Close the device (see "8.3 Closing the device" on page 13).
 8. Perform a functional check (see "6.2 Performing the functional check" on page 8).

8.10 Fitting new pressure gage

Tools and equipment required:

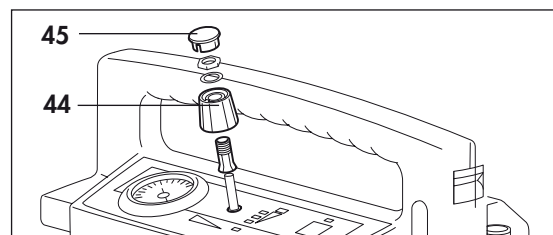
- Phillips screwdriver size 2.
1. Open the device (see "8.2 Opening the device" on page 12).
 2. Use a 7mm open-end wrench to unscrew the tube connection from the pressure gauge.
 3. Cut open cable tie **43**.
 4. Carefully push faulty pressure gauge upward out of resilient ring **42**.
 5. Using a little methylated spirits, carefully insert the new pressure gauge **1** downwards into the resilient ring **42** (making sure to align it correctly). Roll the rubber cuff onto the pressure gauge with your fingers.
 6. Secure the pressure gage by fitting cable tie **43** around the resilient ring.
 7. Attach the tube connector to the pressure gauge using a 7mm open-end wrench.
 8. Close the device (see "8.3 Closing the device" on page 13).
 9. Perform a functional check (see "6.2 Performing the functional check" on page 8).



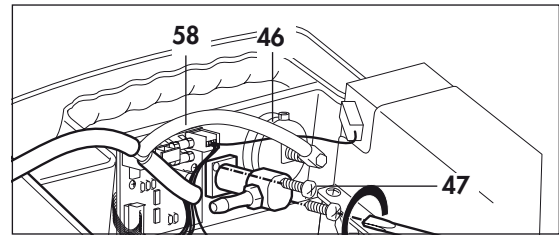
8.11 Fitting new vacuum regulator

Tools and equipment required:

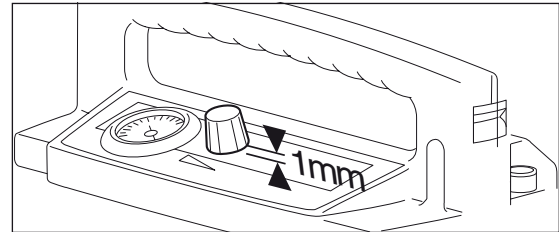
- Phillips screwdriver size 2,
 - Tubular wrench, 10 mm.
1. Open the device (see "8.2 Opening the device" on page 12).
 2. Carefully remove cap **45** of knob **44**, using a razor blade (for example).
 3. Use a 10 mm tubular wrench to unscrew the knob.



4. Remove tube **58** from vacuum regulator.
5. Unscrew the 2 cylinder-head screws **47** and remove the faulty vacuum regulator.
6. Fit the new regulator unit **46** in reverse order.



7. When replacing the knob, ensure that the gap between knob and keyboard membrane (with the spindle screwed in) is approx. 1.0 mm.
8. Use a 10 mm tubular wrench to tighten the nut securing knob **44**.
9. Insert cap **45** (slit in cap must match ridge in knob).
10. Close the device (see "8.3 Closing the device" on page 13).
11. Perform a functional check (see "6.2 Performing the functional check" on page 8).

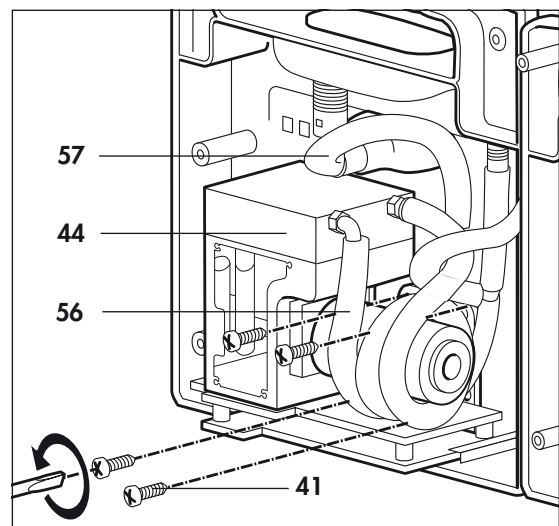


8.12 Fitting new pump

The pump is only available as a complete replacement unit.

Tools and equipment required:

- Phillips screwdriver size 2.
1. Open the device (see "8.2 Opening the device" on page 12).
 2. Detach silicone fabric tube **56** from inlet port of pump.
 3. Detach rolled-up silicone tube **57** from muffler connection.
 4. Unscrew 4 screws **41** from support.
 5. Detach tube **57** from faulty vacuum pump, attach it to outlet of new pump **44** and wind it round motor.
 6. Finish fitting the new vacuum pump in reverse order.
 7. Close the device (see "8.3 Closing the device" on page 13).
 8. Perform a functional check (see "6.2 Performing the functional check" on page 8).



8.13 Changing fuse in vehicle plug

Tools and equipment required:

- Phillips screwdriver size 2.

1. Use a screwdriver to open the vehicle plug.

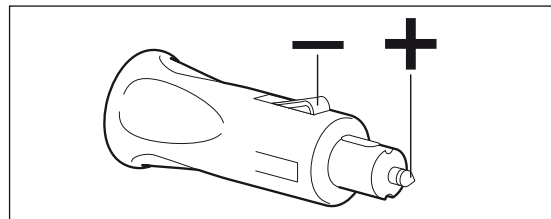
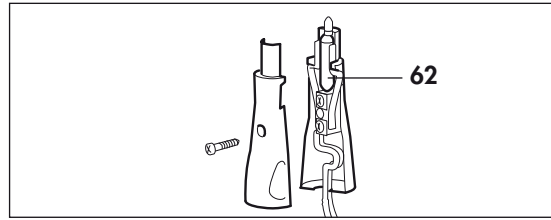
Note:

The central contact of the plug is the plus pole. The plus lead of the cable has either a square cross-section or colored markings. The outer contact of the plug is the minus pole. The minus lead of the cable is round and black.

Caution:

Check the vehicle plug for correct polarity. Reversed polarity can damage ACCUVAC Basic.

2. Change the faulty fuse **62**. Use only approved fuses (see "12. Technical Data" on page 27).
3. Screw the vehicle plug together again.
4. Perform a functional check (see "6.2 Performing the functional check" on page 8).

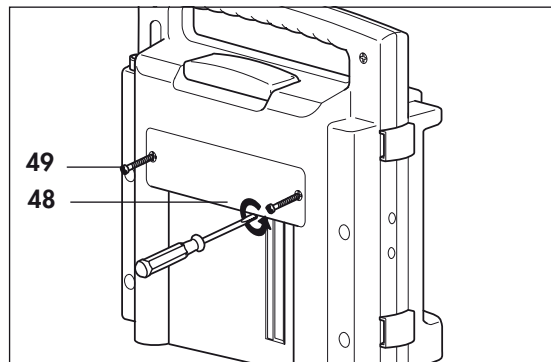


8.14 Changing the muffler

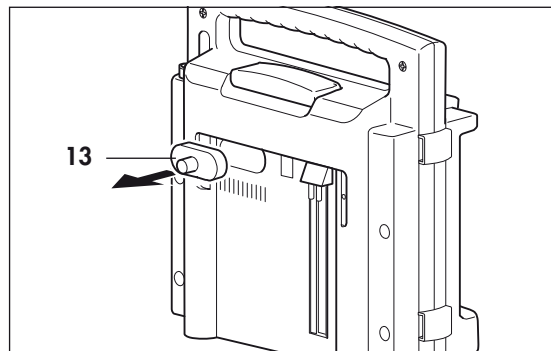
Tools and equipment required:

- Phillips screwdriver size 2.

1. Use a screwdriver to unscrew the cover plate **48** (2 cross-head screws **49**).



2. Remove the old muffler **13**.

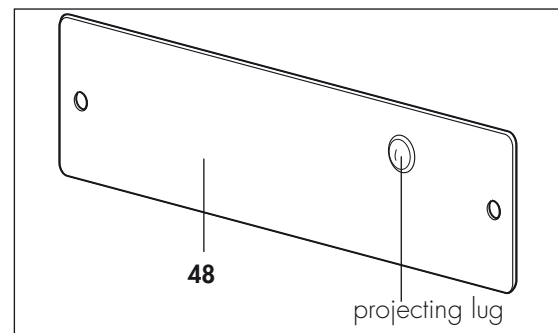


3. Insert a new muffler **13**.

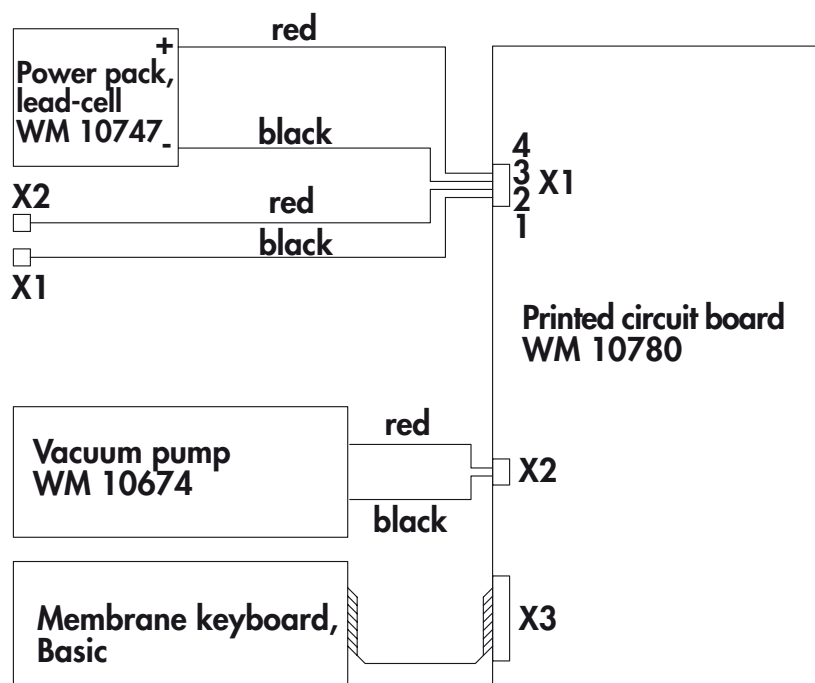
4. Refit the cover plate **48**.

Note that there is a projecting lug on the back of the cover plate. Be sure to fit the cover plate so that this lug locates the muffler in position.

5. Perform a functional check (see "6.2 Performing the functional check" on page 8).



8.15 Electrical circuit diagram



9. Spare Parts

9.1 Spare parts list

Note:

The item numbers in the following table are identical with the numbers used in these Service and Repair Instructions and the Operating Instructions.

Item No.	Description	Order No.
1	Pressure gauge	WM 10754
5	Membrane keyboard ACCUVAC Basic	WM 10745
7	Disposable collection canister consisting of:	WM 10730
24	– Collection canister	WM 10731
21	– Disposable collection bag	WM 10732
19	– Aspiration tube with fingertip	WM 10733
9	Tube holder plate, green	WM 10723
11	Adapter/charger plug	WM 10750
13	Muffler	WM 10665
15	Fuse, external power supply (F1)	WM 2692
16	Fuse, power pack (F2)	WM 2692
17	Lead-acid power pack	WM 10747
22	Vacuum tube	WM 10740
23	T-piece	WM 10738
25	Holder set for disposable collection canister consisting of:	WM 15172
	– Holder	WM 10735
	– Fixing elements	WM 51091
26	Re-usable canister, complete consisting of:	WM 15269
28	– Filter cover	WM 10632
29	– Bacteria filter	WM 10675
31	– Bracing clip	WM 10641
32	– Secretion cover	WM 10636
33	– Ball (overflow guard)	WM 10643
34	– Sealing ring	WM 10635
35	– Nozzle with fingertip	WM 10666
36	– Aspiration tube	WM 10662
37	– Collection canister	WM 10631
38	Holder set for re-usable canister consisting of:	WM 15271
	– Holder	WM 10640
	– Fixing elements	WM 53053
39	Front case element, Basic, assembled, reconditioned*	WM 10706

40	Rear case element, Basic, assembled, reconditioned*	WM 10707
41	Oval head screw KB 40x14	WM 23158
42	Resilient ring	WM 10757
43	Cable tie	WM 12498
2	Vacuum control	
	consisting of:	
44	– Knob	WM 10772
45	– Cap	WM 2635
46	– Regulator unit	WM 10770
47	– Cylinder head screw M3x8, DIN 912	WM 50595
48	Cover plate, green	WM 10725
49	Countersunk screw, KB 40x12	WM 58360
50	Vacuum pump, complete (new)*	WM 10694
	Vacuum pump, complete, exchange unit*	WM 10605
51	PCB, Basic	WM 10780
52	Oval head screw M3x14	WM 53032
53	Internal wiring harness, Basic	WM 10786
54	Cable tie	WM 4668
55	Oval head screw for clip, KB 35x8	WM 58350
56	Tube system, internal	WM 10760
	consisting of:	
	– T reducer 8-6-8	WM 10763
	– Tube, silicone fabric 8x3.5 – 210 mm long	WM 10669
	– Tube, silicone fabric 8x3.5 – 70 mm long	WM 10664
57	Tube, silicone 7x2.5 – 690 mm long	WM 10668
58	Pressure gauge tube	WM 10752
	consisting of:	
	– Tube, silicone fabric 3x3 140mm long	WM 10753
	– Sintered cylinder 2x	WM 10658
59	Tube, silicone fabric 6x3.5; 208 mm long	WM 10765
60	Tube, silicone fabric 6x3.5; 42 mm long	WM 10766
61	T reducer 6-4-6	WM 10764
62	Fuse, vehicle plug	WM 10673
6	Set release catch, green	WM 15397
	consisting of:	
63	– Release catch, green	WM 10724
64	– Retaining pin	WM 10697
65	– O-ring 2.9 x 1.78	WM 1145/80
66	Snap lock	WM 10627
	Washer B 4.3 DIN 125	WM 50240
	Washer B 3.2 DIN 125	WM 50235
	Spring washer A3 DIN 127	WM 50350
	Round cord 930 mm long	WM 10612
	Operating instructions	WM 16138

* When ordering, please state type, appliance no. and year of manufacture

10. Tools and Test Equipment

Following is a list of all tools and test equipment mentioned in these Service and Repair Instructions.

Special tools can be obtained from the manufacturer, WEINMANN.

See the relevant chapter for details of the tools and test equipment needed in each case.

- Cross-head screwdriver, size 1
- Cross-head screwdriver, size 2
- Tubular wrench, 10 mm – for knob
- Open-end wrench, 7 mm – for tube connection to pressure gage
- Ball-joint socket wrench 2.5 mm – for regulator valve
- Wire cutters – for cable tie on pressure gage
- Pliers
- Vacuum test pressure gage set WM 15294

11. Technical Changes

Technical change	From Device No.	Date
Case reinforced, use of washers discontinued	5372	20.11.01
Stronger release catch	5932	22.02.02
Vacuum pump without side walls	9412	28.10.02
Appliance plate with e 1 mark	10735	28.06.04
Redesigned circuit board	22502	05.03.09

12. Technical Data

	ACCUVAC Basic
Product category according to 93/42/EEC	II b
Dimensions WxHxD in mm	385x280x140
Weight	approx. 5.4 kg
Canister volume	900 ml
Suction capacity at 12 V with free flow	> 20 l/min
Max. vacuum at 12 V	0.8 bar (80 kPa)
Aspiration tube	diam. 5 mm, length 1800 mm
Overflow valve filter	at least 99.8 % for particle size 2.8 µm
Motor output	50 W
Rated voltage	12 V
Maximum current consumption	3.5 A
Temperature range Operation Charging Storage	-18 °C to +40 °C + 0 °C to +40 °C -40 °C to +70 °C
Electromagnetic compatibility: Radio interference suppression Radio interference resistance	EN 60601-1-2 EN 55011 IEC 1000-4 Parts 2-5 & 11
Classification according to EN 60601-1: Protection against electric shock: class II Degree of protection against electric shock: BF Degree of protection against water: IPX 1(drip-water)	
Classification according to EN ISO 10079-1	high vacuum/high flow

	ACCUVAC Basic
Norms complied with	EN 60601-1, EN ISO 10079-1, EN 1789
Vehicle plug fuse	8 A, DIN 72581, identification color white
Internal fuse F1 external power supply	4 A slow-acting, low breaking capacity G fuse links 5x20 mm, conforms to IEC 127
Internal fuse F2 power pack	4 A slow-acting, low breaking capacity G fuse links 5x20 mm, conforms to IEC 127
Power pack type	Lead cell, 3.4 Ah
Charging voltage	12.0 to 13.8 V $\overline{=}$
Operating time after charging for 14 hours	30 min at maximum suction
Operating mode	S2 60 min
Service life of power pack	400 charge/discharge cycles in approx. 3 years
AC adapter/charger	primary: 230 V/50 Hz secondary: 13.8 V $\overline{=}$ /0.3 A
Materials	
Disposable collection canister: Collection canister: PC Disposable collection bags, tubes: PVC Nozzle with fingertip: PE	
Case	PC/ABS
Tube holder plate	ABS



From serial no. 10735/2004

(Subject to technical change without notice)

12.1 Safe distances

The ACCUVAC Basic is intended for operation in an electromagnetic environment in which high-frequency interference variables are controlled. The customer or user of the ACCUVAC Basic can help avoid electromagnetic interference by maintaining

the minimum safe distance between portable and mobile high-frequency telecommunication devices (transmitters) and the ACCUVAC Basic depending on the rated output of the transmitter as given below.

Recommended safe distances between portable or mobile HF telecommunication devices (e.g. mobile phones) and the ACCUVAC Basic			
Rated output of HF device in W	Safe distance depending on transmission frequency		
	in m		
	150 kHz - 80 MHz $d=(3,5/\sqrt{P}) \times \sqrt{P}$	80 MHz - 800 MHz $d=(3,5/\sqrt{P}) \times \sqrt{P}$	800 MHz – 2,5 GHz $d=(3,5/\sqrt{P}) \times \sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.37	0.37	0.74
1	1.17	1.17	2.33
10	3.69	3.69	7.38
100	11.67	11.67	23.33

13. Repair and Test Report

Keep a record of all tests or repairs performed (please copy attached form for use).

Device master data	Maintenance and repair work carried out in accordance with service document
<div>Manufacturers: WEINMANN GmbH + Co. 22525 Hamburg</div> <div>Device mode: ACCUVAC</div> <div><input type="checkbox"/> WM 10600 ACCUVAC Rescue</div> <div><input type="checkbox"/> WM 10700 ACCUVAC Basic</div> <div>Device no.: _____</div> <div>Production date: _____</div>	<div>Service performed in accordance with ACCUVAC-Service and Repair Instructions</div> <div>Company</div> <div>Date</div> <div>Signature</div> <div>Company</div> <div>Date</div> <div>Signature</div> <div>Company</div> <div>Date</div> <div>Signature</div> <div>Company</div> <div>Date</div> <div>Signature</div>

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