

Servicing and
repair instructions

Module System



Oxygen MODULE
WM 22200

Suction MODULE
WM 22220

Combi MODULE
WM 22210

Interface MODULE
WM 22230

WEINMANN

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Introduction

For decades, Weinmann has developed, manufactured and distributed equipment for oxygen and inhalation therapy and for emergency medicine.

In 1980, Weinmann launched the first MODULES on the market.

The MODULES were permanently installed in a vehicle or alternatively, for mobility purposes, mounted on the support plates LIFE-BASE II and LIFE-BASE Mini II.

You can use the Modules individually, connect up to three Modules in series, or combine them with the MEDUMAT respirator. In this way, you need only one oxygen connection, and where space is limited, several functions are available simultaneously.

The modules serve the following purposes:

- Oxygen MODULE:
Oxygen inhalation 0 to 15 l/min.
- Suction MODULE:
Extraction, infinitely variable from 0 to -0.5 bar.
- Combi MODULE:
Oxygen inhalation 0 to 15 l/min, extraction preset at -0.5 bar.
- Interface MODULE:
Connection to an external oxygen supply 2.7 to 6.0 bar.

The aim of these service and repair instructions is to familiarise you, as a **knowledgeable expert**, with the Module in terms of function, technology and repairs. In conjunction with the training you have already received from Weinmann, you are now a "trained, qualified expert" and are able to instruct your clients correctly, rectify faults yourself, and perform the functional checks described in the instructions for use, as well as conduct any repairs which may be necessary, as outlined in these service and repair instructions.

In the event of a guarantee claim, the module should be returned to Weinmann.

To enable us to process any guarantee or goodwill claims, please return the consumer's proof of purchase (invoice) together with the appliance.

Repair and maintenance work must be carried out only by Weinmann or by knowledgeable expert staff.

You are responsible for repairs performed by yourself and for the warranty thereof!

Only original Weinmann spare parts should be used for repair purposes.

Please remember:

Your customer trusts you and relies on your expertise, just as you rely on Weinmann.

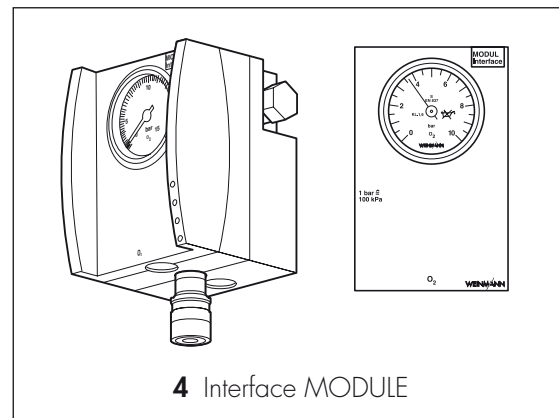
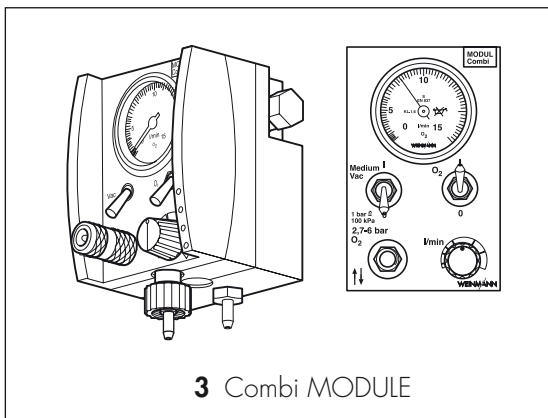
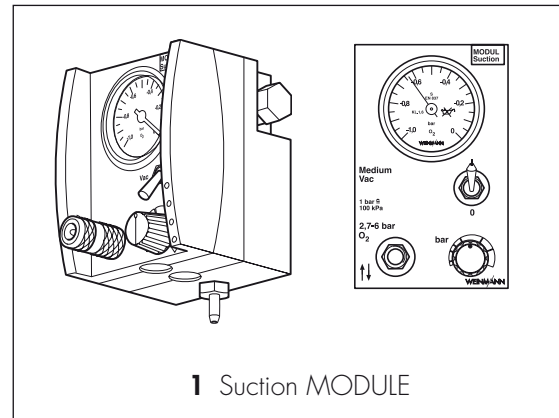
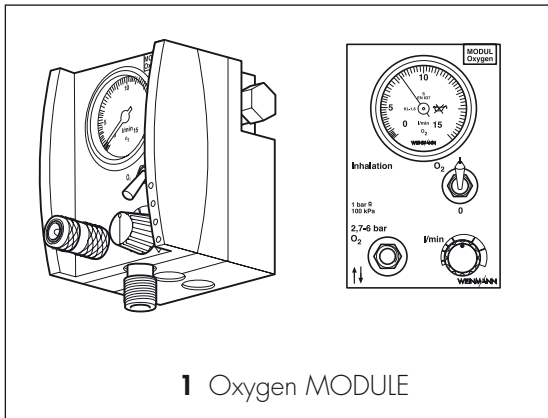
Note:

The following information can be found in the instructions for use of the MODULE system:

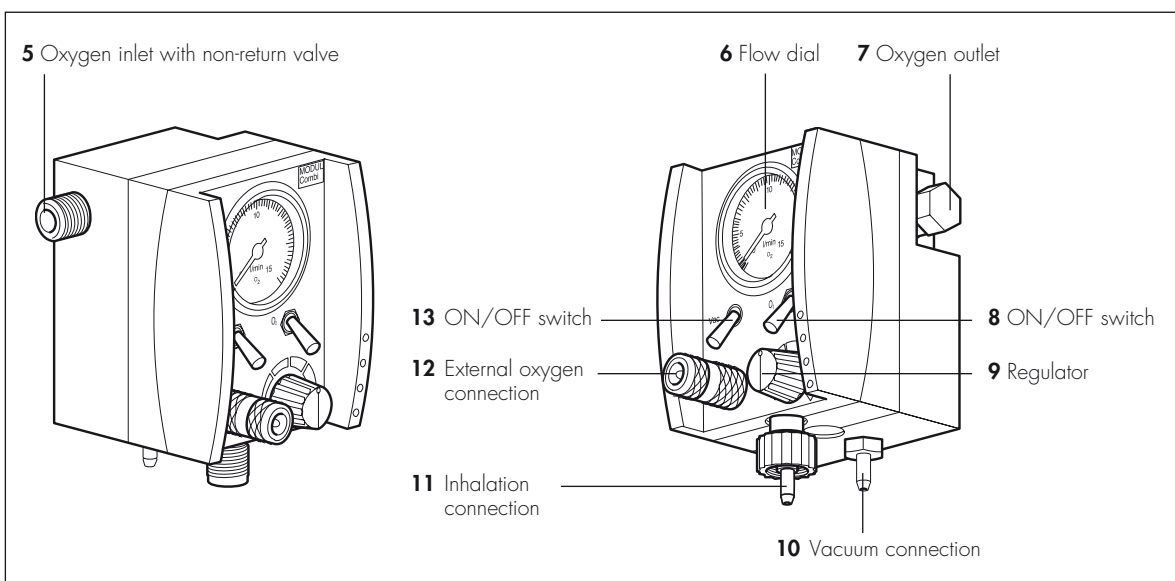
- Safety instructions
- Mounting with accessories
- Operation of the individual modules and extraction of secretions
- Hygienic preparation
- Warranty.

1. Overview

Module



Connections and controls (on the Combi MODULE)



2. Description

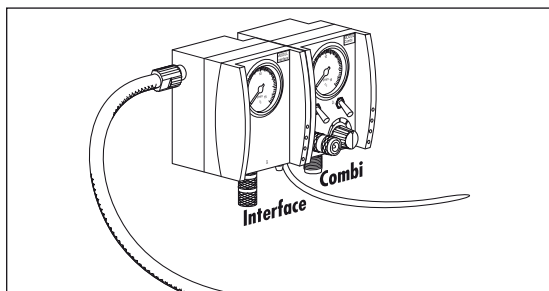
2.1 Uses

Use	Oxygen MODULE	Suction MODULE	Combi MODULE	Interface MODULE
Increase of percentage oxygen volume in inspiratory air	X	–	X	–
Creation of a vacuum to aspirate large accumulations of blood, mucus, saliva and solid or viscous food from the mouth, the pharyngonasal cavity and the bronchial system.	–	X	X	–
Transmission of oxygen supply via couplings to other equipment	X	X	X	X
Provision of external oxygen supply via coupling head	X	X	X	X

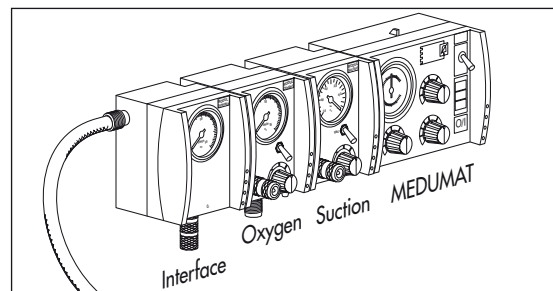
The modules are not suitable for hyperbaric use (pressure chamber).

2.2 Module combinations

You can use modules either individually or in series of up to three modules.



It is also possible to connect up to three modules to the MEDUMAT ventilator.



2.3 Storage

If you are not intending to use a module for a long period, we recommend the following storage precautions:

1. Clean and disinfect the module (see "9. Hygienic preparation" in the operating instructions).
2. Store the module in a dry place.

3. Final Check

If the final check reveal defects or deviations from the specified parameters, neither the modules nor the OMNIVAC should be used until these defects have been repaired.

We recommend you hold reserve stocks of the following items:

- washers for the tube connections
and inhalation connections WM 1145/31
- washers for connection socket WM 1145/68

3.1 Test resources required

- | | | | |
|--|----------|--|----------|
| • Blind plug G 3/8 | WM 1231 | • Set, test Walther coupling,
module | WM 15441 |
| • Cap | WM 22204 | • Pressure gauge 0 – 6.3 bar, class 1.6 | |
| • Set, supply test Medumat /
Modules | WM 15440 | • Flowmeter 0 – 20 litres e.g.: Yokogawa or
EKU Vip-Ventilator / Pf 300 | |
| • Set of test pressure gauges,
vacuum | WM 15294 | | |

3.2 Preparations for final check

- | | |
|--|---|
| 1. Connect module to 4.5 - 6 bar pressure supply
of the cylinder system. | 3. Set toggle switch to position 0. |
| 2. Fully close pressure regulator (turn to left until it
meets the stop). | 4. If the lateral oxygen connection is not closed,
close it with cap WM 22204. |

3.3 Entering device data

- Enter the device number and date of manufacture in the Test Record.

3.4 Check for leaks in the system

MODULE Oyxgen / Combi

1. Apply 6 bar to device and close pressure outlet.
Requirement: Pressure indication must not fall by more than 0.1 bar/min.
2. Screw blind plug onto inhalation outlet.

3. Apply approx. 4.5 bar to the input.
4. Set toggle switch to position "1".
5. Slowly turn pressure regulator until it reads 1.5 l/min.
6. Close pressure supply.

Requirement: Pressure indication must not fall by more than 0.1 bar/min.

7. Close pressure regulator again and remove blind plug.

Requirement: Pressure indication must not fall by more than 0.1 bar/min.

8. Set toggle switch on device to position "0" and open pressure regulator.

Requirement: Pressure indication must not fall by more than 0.1 bar/min.

MODULE Interface

1. Apply 6 bar to device and close pressure outlet.

Requirement: Pressure indication must not fall by more than 0.1 bar/min.

2. Set toggle switch to position "1".

Requirement: Pressure indication must not fall by more than 0.1 bar/min.

The O₂ pressure indication for the module must not deviate by more than ± 0.2 bar /min.

MODULE Suction

1. Apply 6 bar to device and close pressure outlet.

Requirement: Pressure indication must not fall by more than 0.1 bar/min.

2. Set toggle switch to position "1".

Requirement: Pressure indication must not fall by more than 0.1 bar/min.

Checking non-return valve for leaks (Oxygen, Combi and Suction module)

1. Set toggle switch to position "0".
2. Connect pressure supply to external supply, e.g. Walther coupling (testing tube WM 15441), apply 6 bar pressure and close.

Requirement: Pressure indication must not fall by more than 0.1 bar/min.

Repairing leaks

Always keep a stock of washers for the connections available

1. Prepare a soap/water solution using non-perfumed soap.
2. Wet all the screw and hose connections with the solution. Bubbles will form at the site of the leak.
3. Depressurise the system (To do this, first close the oxygen bottle. Switch on the module briefly and then switch it off again.)
4. Change the defective washers.
5. Recheck for leaks.

3.5 Checking inhalation function

MODULE Oyxgen / Combi

1. Connect inhalation outlet to a flowmeter and apply 4.5 bar pressure to the module.
2. Set flow at module to 6 l/min.
Requirement: Reading must not deviate by more than ± 0.6 l/min.
3. Set flow at module to 10 l/min.
Requirement: Reading must not deviate by more than ± 1.0 l/min.
4. Set flow at module to 15 l/min.
Requirement: Reading must not deviate by more than ± 1.5 l/min.
5. Reduce input pressure to 2.7 bar (dynamically, at 80 l/min).
6. Switch on module and fully open pressure regulator.
Requirement: Pressure gauge reading must reach an output of at least 10 l/min.
7. Close pressure regulator and set toggle switch to position "0".

3.6 Testing vacuum

MODULE Combi/ Suction

1. Screw the pressure supply onto the pressure inlet.
2. Reduce input pressure to 2.7 bar (dynamically, at 80 l/min).
3. Connect vacuum gauge to vacuum outlet.
4. Set toggle switch to vacuum.
Requirement: The vacuum reading must reach at least 0.35 bar.
5. Set inlet pressure to 4.5 bar.
Requirement: The vacuum reading must reach at least 0.55 bar. The device reading must not deviate from the test gauge reading by more than ± 0.05 .
6. Connect vacuum connection to Rotameter.
Requirement: The suction performance must be greater than 8 l/min (flowmeter).

MODULE Suction

1. Set toggle switch to position "1".
2. Set pressure regulator to maximum vacuum.
Requirement: See vacuum testing in section MODULE Combi/Suction.

3.7 Checking aspiration function

Necessary with the Suction MODULE and the Combi MODULE

1. Open the valve of the oxygen bottle **slowly**.
2. Switch on aspiration.
3. **Suction MODULE:**
Turn the regulator knob **9** as far right as it will go. Remove the vacuum tube and hold vacuum connection **10** closed.
Combi MODULE:
The vacuum is locked at ≥ -0.5 bar (at 4.5 bar O_2 input pressure) and cannot be read off the manometer **6** directly. In this case it is necessary to connect the Weinmann test manometer WM 15294 to vacuum connection **10**.
4. When the manometer **6** on the Suction MODULE or the test manometer connected to the Combi MODULE are showing a constant reading, this should be not less than -0.5 bar at an O_2 input pressure of 4.5 bar.
5. To check the OMNIVAC aspirate collection set for leaks, replace the vacuum tube and hold the opening of the end piece closed.
6. A reading of at least -0.5 bar must be obtained within 30 seconds.
If this level is not reached, the connections must be checked for leaks.

4. Servicing

Important:

Remember: a functional check must be performed after every repair.

We recommend having all maintenance work, servicing and repairs carried out either by the manufacturer Weinmann or by a qualified technician.

4.1 Intervals

The following checks must be carried out to ensure that the modules always function correctly.

Before each use:

- Carry out a final check (see sections 3.4 to 3.7).

After each use

- Clean, disinfect or sterilise the device and its components (see "9. Hygienic preparation" in the operating instructions).
- Carry out a final check (see sections 3.4 to 3.7).

At least every 6 months, if the equipment has not been used in the intervening period:

- Carry out a final check (see sections 3.2 to 3.4).

After every repair:

- Clean, disinfect or sterilise the device and its components (see "9. Hygienic preparation" in the operating instructions);
- Carry out a final check (see sections 3.4 to 3.7).

4.2 Servicing

The devices must be serviced every 4 years.

The following points must be covered:

- Visual inspection:
 - mechanical damage;
 - labelling of components.
- Pressure indicator accuracy;
- Freedom from leaks;
- Oxygen delivery rate and aspiration capacity;
- Renewal of parts subject to wear / mandatory change parts (see "7.2 Spare parts required for servicing" on page 37);
- **Functional check in accordance with Test Instructions / Test Record WM 22248** (see "3. Final Check" on page 7 and see "11. Repair and inspection log" on page 45 to 48).

Every 4 years:

- Servicing of oxygen fittings (e.g. pressure reducers) by the manufacturer or by specialist personnel specifically authorised by the manufacturer.

Every 10 years:

- Repeat testing of the conventional steel or aluminium oxygen bottles by the the responsible testing organization. The test deadline can be found on the shoulder of the cylinder.

4.3 Disposal



Do not dispose of the unit with domestic waste. For proper disposal of the device and its components, please contact a certified waste disposal site for electronic goods. Ask your Environmental Officer or local council for the address. Appliance packaging (cardboard and inserts) may be disposed of in the paper recycling bin.

5. Troubleshooting

Problem	Cause of defect	Elimination
Module will not switch on	Module defective	Arrange for repair
Module will not function	Oxygen bottle empty	Replace oxygen bottle
	Module incorrectly assembled	Check assembly
	Tubes wrongly connected	Check connections
Exceptionally high oxygen consumption	Leak in oxygen tubes	Find and repair leak (see "3.4 Check for leaks in the system" on page 7)
No vacuum or vacuum too weak or inadequate O ₂ flow for inhalation	Leak in system	Eliminate leak (see "3.4 Check for leaks in the system" on page 7)
	Moisture in block	Replacement by Weinmann
	Module defective or clogged internally.	Arrange for repair
Noisy inhalation/aspiration	Moisture in block	Replacement by Weinmann
Toggle Switch does not stay in switch position	Toggle Switch pressure plate worn	Replace toggle switch (see "6.2.8 Replacing the toggle switch" on page 22)
Pressure gauge does not reach zero position	Pressure gauge defective (pressure hammer through open pressure regulator 9 when switching on)	Replace the pressure gauge (see "6.2.6 Replacing the pressure gauge" on page 20)

6. Repair information and repair instructions

6.1 General

- **Please observe the safety instructions in the instructions for use of the Module system.**
- All handling of the device pre-supposes a precise knowledge of and compliance with the instructions for use and the service and repair instructions.
- Please carry out only the repairs described in these service and repair instructions. Otherwise, perfect functioning of the Modules cannot be guaranteed.
- When you replace components or individual parts, please use original Weinmann parts only.
- Please ensure that your hands and workplace are clean when carrying out repairs.
- Under no circumstances should you open the screw connection in the inhalation outlet **11**, otherwise the set parameters will be altered!
- After each repair, please perform a final check (see „3. Final Check“ on page 7).
- **Note:**
The item numbers used in the following text match the item numbers in the spare parts list on page 29 and the overview on page 4.

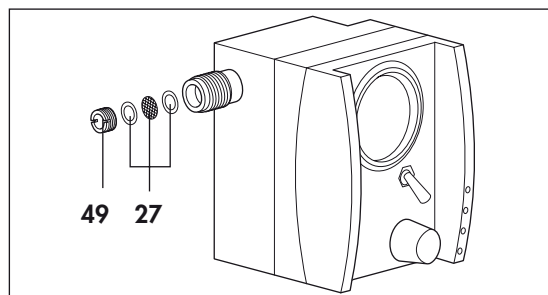
6.2 Oxygen MODULE

6.2.1 Replacing the sieve in the oxygen inlet

Tools required:

- Slotted screwdriver,
- Tweezers.

1. Unscrew pressure screw **49** from oxygen inlet **5**.
2. Using the tweezers, remove the sieve set **27**.
3. Carefully insert a new sieve set **27** into the oxygen inlet.
4. Screw pressure screw **49** firmly into oxygen inlet again.

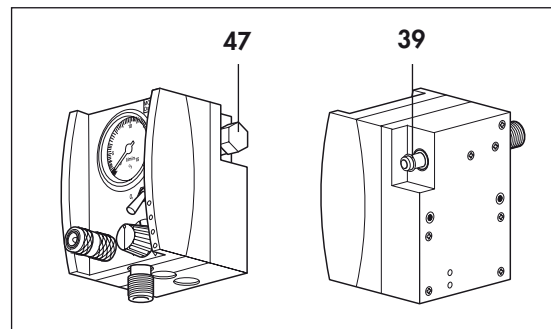


6.2.2 Replacing the O-ring in the oxygen outlet

Tools required:

- Open-ended spanner SW 16 (only necessary if the oxygen outlet **7** is sealed with the cap **47**).

1. If the oxygen outlet **7** is sealed with the cap **47**, remove the cap using the open-ended spanner (SW 16).
2. Pull the O-ring **39** from the connection.
3. Wet a new O-ring using the oxygen lubricant Belerub (WM 14902) and push it onto the connection.
4. Using open-ended spanner SW 16, gently tighten cap **47**. **Do not over-tighten!**



6.2.3 Dismantling the housing

Tools required:

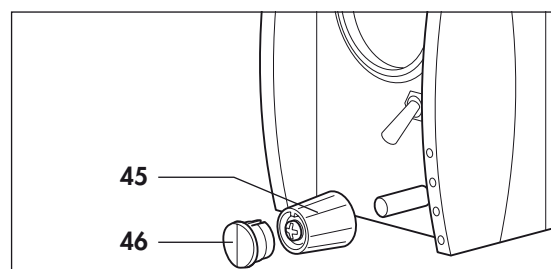
- Crosstip screwdriver, size 1,
- Open-ended spanner SW 7,
- Open-ended spanner SW 19 (only with AGA coupling),
- Open-ended spanner SW 22,
- Guide pipes, for toggle switches (from Weinmann),
- Special locknut tool G 3/8 and special tool from Set WM 15348.

1. Twist the knob **45** as far as it will go to the left so that you will have a reference point later on when assembling.
2. Release the lid **46** from the knob **45**.
3. Hold the knob steady using the special tool to stop it from turning, and loosen the lock screw.

Note:

Do not unscrew the screw completely; otherwise, the knob will be dismantled into its component parts.

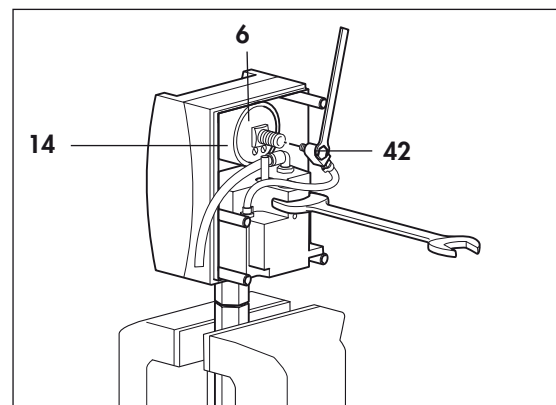
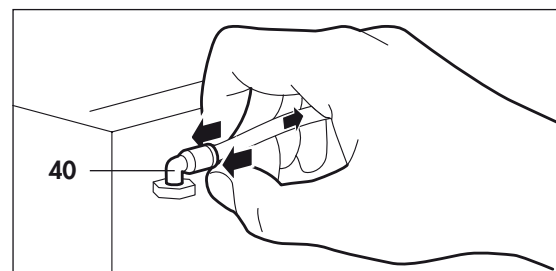
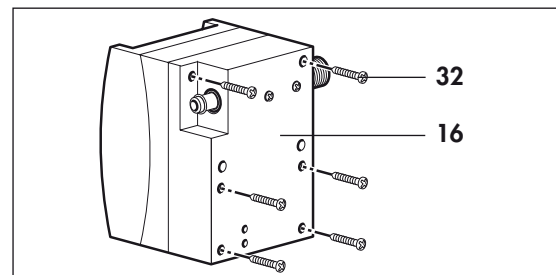
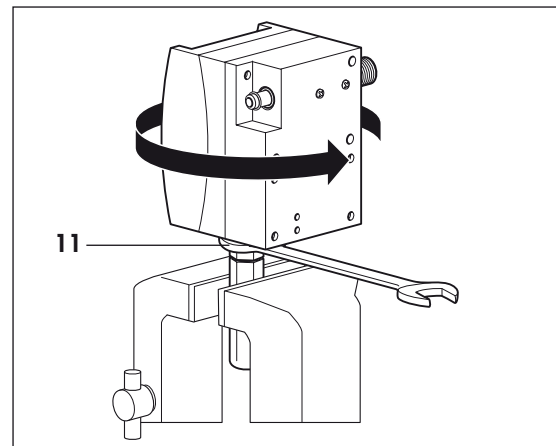
4. Pull off the knob **45**.
5. If your Module is equipped with an AGA coupling, loosen it with an open-ended spanner (SW 19).
6. Unscrew union nut at inhalation connection **11**.
7. Screw the special locknut tool onto the inhalation connection **11**.



8. Clamp the special locknut tool in a vice with protective jaws.
9. Tighten the nuts of the special locknut tool against the inhalation connection **11** using an open-ended spanner (SW 22).
10. Turn entire housing to left to undo connection **11**. If it is not possible to undo connection **11**, proceed as described from step **11**, onwards and pull the housing apart. Clamp the special locknut tool in the vice again and use an open-ended spanner SW 22 to undo the block as shown in the diagram.
11. Place the device on a non-slip surface and unscrew the six screws **32** from the rear panel of the housing.
12. Pull off the housing base section **16** and fold it away.
13. Next, remove the supply tube from the distributor block by pushing back the sleeve of the angular bush **40** and pulling out the tube.
14. Unscrew the threaded connection for inhalation **11** at the handle of the special locknut tool.
15. Next, lift off the upper housing section **15**.
16. Using an open-ended spanner (SW 7), release the swivel screw connection **42** from the pressure gauge **6**.
17. Press the pressure gauge **6** out of the mounting **14**.

Tip:

You will find the pressure gauge easier to remove if you dribble a small amount of spirit between the pressure gauge and the mounting.



6.2.4 Assembling the housing

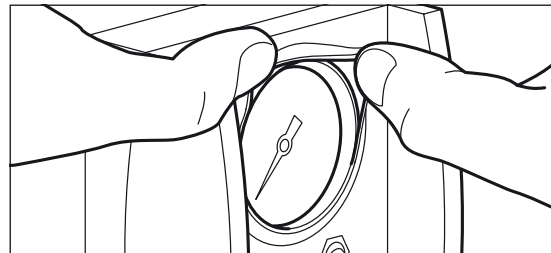
Tools required:

- Crosstip screwdriver, size 1,
- Open-ended spanner SW 7,
- Open-ended spanner SW 19 (only with AGA coupling),
- Open-ended spanner SW 22,
- Guide pipes, for toggle switches (from Weinmann),
- Special locknut tool G 3/8 and special tool from Set WM 15348.

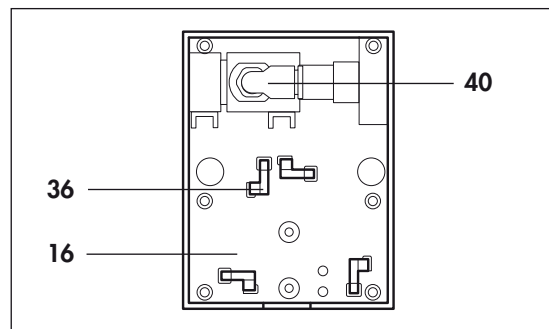
1. Wet the edge of the pressure gauge **6** with a little spirit and press it into the mounting **14**.

Observe the installation position so that the display remains clearly legible!

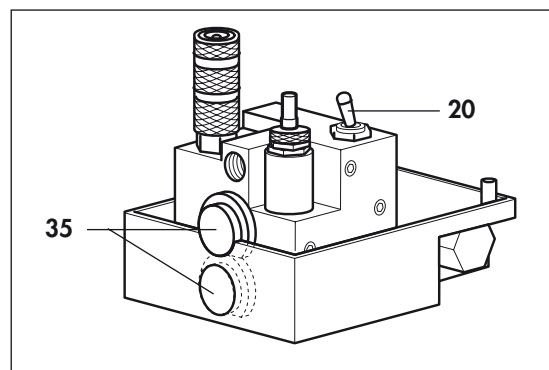
2. Pass the rubber bead over the pressure gauge with your fingers.



3. Make sure that the four rubber buffers **36** in the housing base section **16** are firmly seated (insert with a little spirit if necessary).

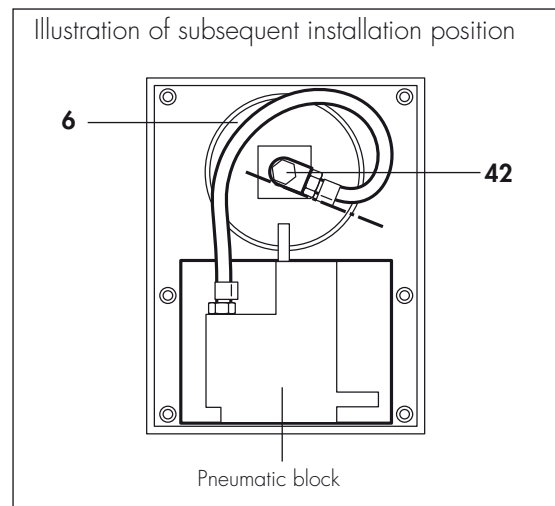


4. Carefully insert the two blind plugs **35** into the holes on the underside of the housing. The flattened sides should be pointing towards the base of the device.
5. Carefully insert the pneumatic block into the housing base section.
6. For easier movement, disconnect the supply tube **25** from the pneumatic block.
7. Push the supply tube into the angular bush **40** as far as it will go.
8. Rotate the angular bush **40** in the opposite direction of the oxygen inlet **5**.
9. Push the supply tube into the bush **40** of the pneumatic block as far as it will go.



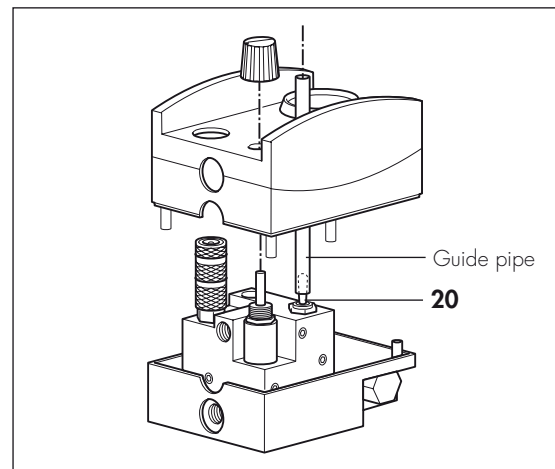
10. Screw the swivel screw connection **42** onto the pressure gauge **6** using an open-ended spanner (SW 7).

Take care to ensure the correct installation position. The tube must not protrude beyond the housing afterwards.

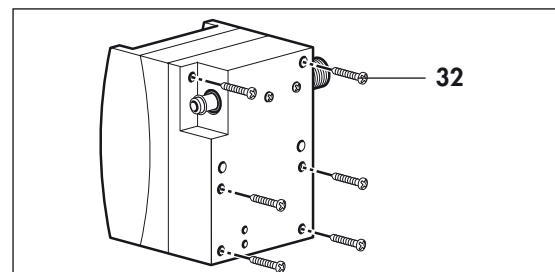


11. Move the toggle switch **20** to the central position and place the guide pipe over it. The guide pipe holds the toggle switch in position, allowing you to fit the upper housing section more easily.
12. Carefully push the upper housing section over the guide pipe onto the base section.

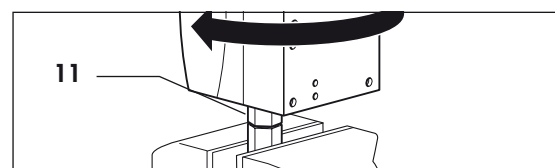
Make sure the tubes are not pinched.



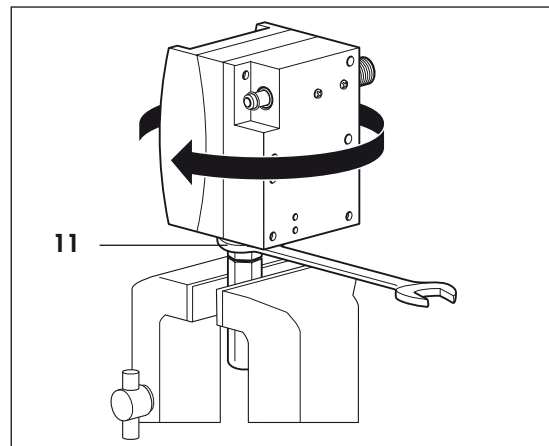
13. Remove the guide pipe.
14. Turn the device round and screw the housing together using the six screws **32**.



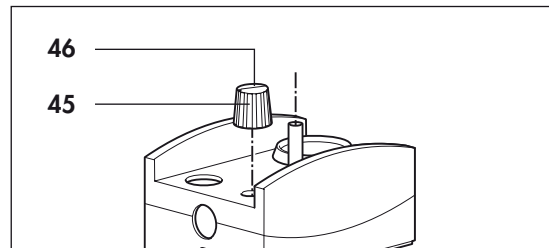
15. Clean the threaded connection for inhalation **11** and the threaded hole.
16. Connect the module to the O₂ supply and switch the toggle switch to I. Turn up the pressure control so that the threaded hole is blown clean.
17. Wet the threaded connection **11** with Loctite 245, and screw it into the pneumatic block using the special locknut tool.



18. Clamp the special locknut tool in a vice.
19. Loosen the nuts of the special locknut tool using an open-ended spanner (SW 22).
20. Remove the module from the vice and unscrew the special locknut tool.



21. Fasten the knob **45** onto the front of the device:
 - Slide the knob onto the spindle as far as it will go.
 - Twist the knob so that it is pointing to the lowest value for "l/min".
 - Hold the knob steady with the special tool and screw it tight.



22. Check the display of the knob. At the left limit, the white line must be pointing to the lowest value of the arrow.
If this is not the case, loosen the screw on the control knob, and align the knob.
23. Place the lid **46** on the control knob **45**.
24. If your module is equipped with an AGA coupling, please tighten it using the open-ended spanner (SW 19).
25. Perform a final check (see "3. Final Check" on page 7).

6.2.5 Replacing the non-return valve in the distributor block

Tools required:

- Crosstip screwdriver, size 1,
- Open-ended spanner SW 22,
- Brass brush,
- Thread tapper M 10 x 1 for internal thread,
- Special locknut tool G 3/8, special spanner SW 20 with handle bar from Set WM 15348.

1. Unscrew the base section of the housing (see steps **11.** to **13.** in chapter "6.2.3 Dismantling the housing" on page 14).

2. Screw the special locknut tool onto the oxygen inlet **5**.

3. Clamp the special locknut tool in a vice.

4. Tighten the nuts of the special locknut tool against the pressure connection using an open-ended spanner (SW 22).

5. Place the special spanner (SW 20) onto the distributor block.

6. Next, screw the special spanner with the housing in an counter-clockwise direction until the oxygen inlet **5** has been loosened.

7. Open the vice, and unscrew the special locknut tool with the oxygen inlet **5** in a counter-clockwise direction.

8. You can now remove the non-return valve **48**.

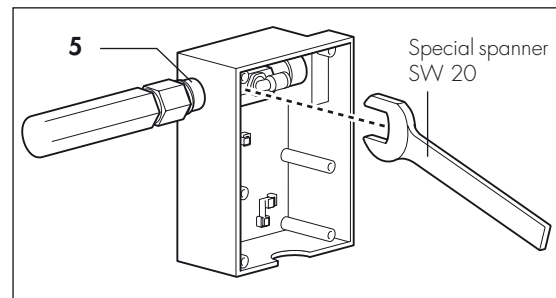
9. Remove any adhesive residue from the thread surfaces:

- Clean the outer thread with a brass brush.
- If necessary, re-cut the inner thread (fine thread M 10 x 1).

10. After removing cap **47**, use oxygen to blow out any residues etc. from the distributor block.

11. Insert the new non-return valve **48**.

Ensure the correct installation position: The sealing surface of the non-return valve must be pointing towards the oxygen inlet 5!



12. Wet the cleaned thread of the oxygen inlet **5** with Loctite 245 and screw it tight using the special locknut tool.

13. Clamp the special locknut tool in a vice.

14. Loosen the nuts of the special locknut tool using an open-ended spanner (SW 22).

15. Remove the Module from the vice and unscrew the special locknut tool.

16. Join the two halves of the housing together (see "6.2.4 Assembling the housing" on page 16).

17. Fit cap **47** (see "6.2.2 Replacing the O-ring in the oxygen outlet" on page 14).

18. Perform a final check (see "3. Final Check" on page 7).

6.2.6 Replacing the pressure gauge

Tools required:

- Crosstip screwdriver, size 1,
- Open-ended spanner SW 7.

1. Unscrew the base section of the housing (see steps 11. to 13. in chapter "6.2.3 Dismantling the housing" on page 14).
2. Using an open-ended spanner (SW 7), release the swivel screw connection 42 from the pressure gauge 6.

3. Press the pressure gauge 6 out of the mounting 14.

Tip:

You will find the pressure gauge easier to remove if you dribble a small amount of spirit between the pressure gauge and the mounting.

4. Wet the edge of the new pressure gauge 6 with a little spirit and press it into the mounting 14.

Important:

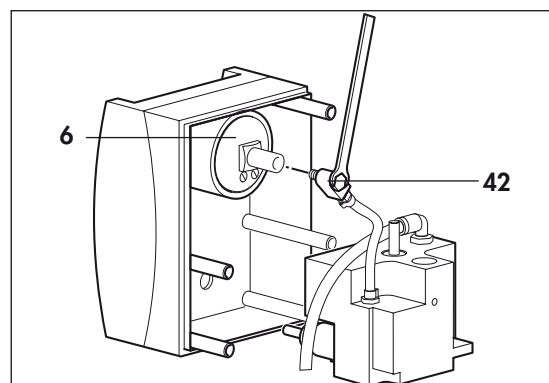
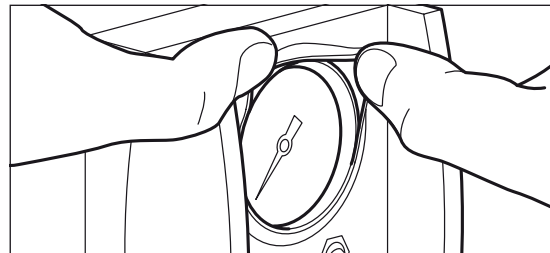
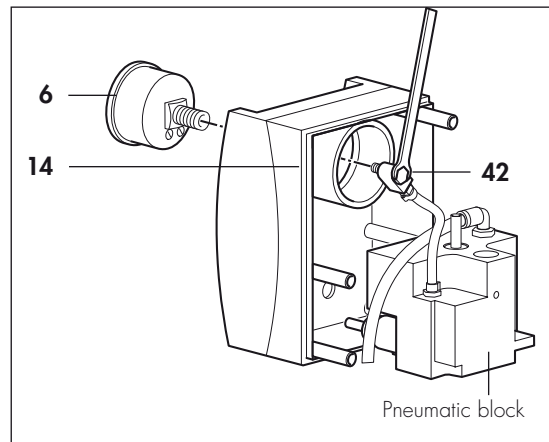
Observe the installation position so that the display remains clearly legible!

5. Pass the rubber bead over the pressure gauge with your fingers.

6. Screw the swivel screw connection 42 to the pressure gauge 6.

Take care to ensure the correct installation position. The tube must not protrude beyond the housing.

7. Join the two halves of the housing together (see "6.2.4 Assembling the housing" on page 16).
8. Perform a final check (see "3. Final Check" on page 7).

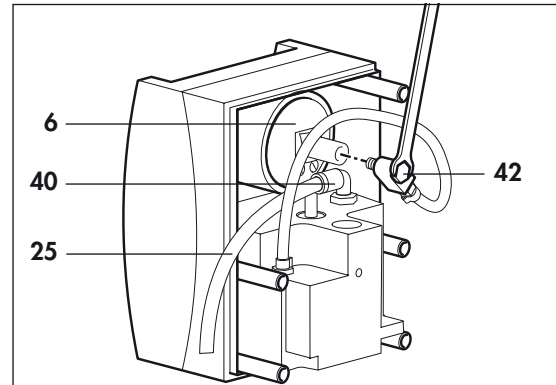


6.2.7 Replacing the tubes

Tools required:

- Crosstip screwdriver, size 1,
- Bulldog end cutting nippers,
- Open-ended spanner SW 7,
- Small slotted screwdriver or flat object for bending the single-lug clips.

1. Unscrew the base section of the housing (see steps **11.** to **13.** in chapter "6.2.3 Dismantling the housing" on page 14).
2. Disconnect the supply tube **25** from the pneumatic block by pushing back the sleeve of the angular bush **40** and pulling out the tube.
3. Using an open-ended spanner (SW 7), unscrew the swivel screw connection **42** from the pressure gauge **6**.

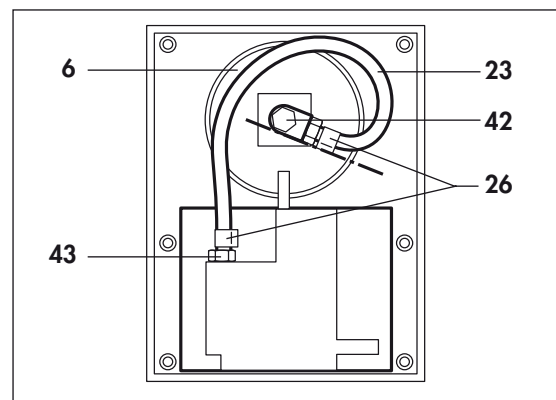


4. Open both single-lug clips **26** on the pressure gauge tube **23**:
 - First, open the clips with the bulldog end cutting nippers.
 - Then carefully bend them open using a small screwdriver.
5. Pull the tube from the connection on both sides.
6. Replace the pressure gauge tube **23** (150 mm long):
 - Slide a new single-lug clip **26** onto the new pressure gauge tube **23**.
 - Slide the tube onto the bush **43** on the pneumatic block.
 - Align the clip and squeeze it together using the bulldog end cutting nippers.
 - In the same way, connect the tube to the swivel screw connection **42**.
7. Push the new supply tube **25** into the angular bush **40** on the pneumatic block as far as it will go.

Take care to ensure the correct installation position:

The angular bush should be pointing towards the centre of the device.

The tube runs beneath the pressure gauge tube.



8. Screw the swivel screw connection **42** securely to the pressure gauge **6**.

Take care to ensure the correct installation position: The tube must not protrude beyond the housing.

9. Join the two halves of the housing together (see "6.2.4 Assembling the housing" on page 16).
10. Perform a final check (see "3. Final Check" on page 7).

6.2.8 Replacing the toggle switch

Tools required:

- Crosstip screwdriver, size 1,
- Open-ended spanner SW 7,
- Open-ended spanner SW 17,
- Open-ended spanner SW 19 (only with AGA coupling),
- Guide pipes, for toggle switches (from Weinmann),
- Special locknut tool G 3/8 and special tool from Set WM 15348.

1. Remove the housing (see "6.2.3 Dismantling the housing" on page 14).
2. Use an open-ended spanner (SW 17) to unscrew counter nut **51**, then remove the faulty toggle switch **20**.
3. Screw in the new toggle switch **20** using the existing counter nut **51** and the new seals.

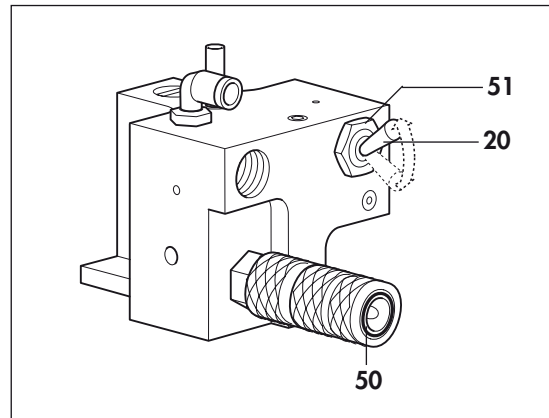
Take care with the installation position:

The toggle switch should drop automatically into its end position. It must not become stuck in an intermediate position.

Note:

The toggle switch will tend to drop into the upper position.

4. Re-assemble the housing (see "6.2.4 Assembling the housing" on page 16).
5. Perform a final check (see "3. Final Check" on page 7).



6.2.9 Replacing the quick-release coupling

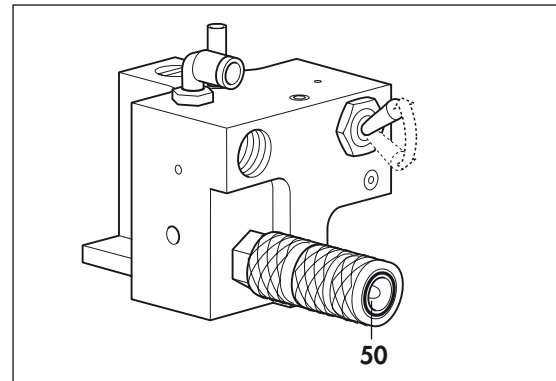
Tools required:

- Crosstip screwdriver, size 1,
- Open-ended spanner SW 7,
- Open-ended spanner SW 14 (with Walther coupling),
- Open-ended spanner SW 19 (with AGA coupling),
- Brass brush,
- Thread taper for internal thread G 1/8,
- Guide pipes, for toggle switches (from Weinmann),
- Special locknut tool G 3/8 and special tool from Set WM 15348.

1. Remove the housing (see "6.2.3 Dismantling the housing" on page 14).
2. Carefully clamp the pneumatic block in a vice with protective jaws.

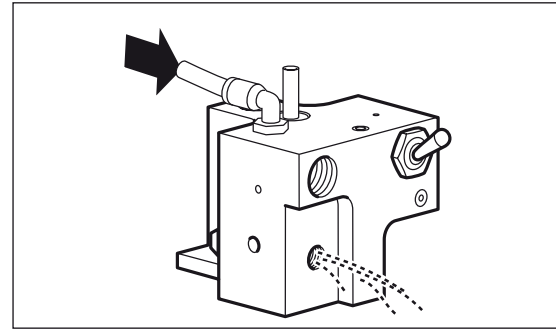
3. Remove the coupling:

- Unscrew the Walther coupling using an open-ended spanner (SW 14). As the coupling is secured with Loctite 245, this will take a little strength.
- If your Module is equipped with an AGA coupling, unscrew it using the open-ended spanner (SW 19).



4. Remove any adhesive residue from the thread surfaces:

- Clean the outer thread with a brass brush.
- If necessary, re-cut the inner thread (G 1/8).
- Blow out the residue in the pneumatic block with oxygen via the tube connection of the main supply.



5. Join the two halves of the housing together (see "6.2.4 Assembling the housing" on page 16).

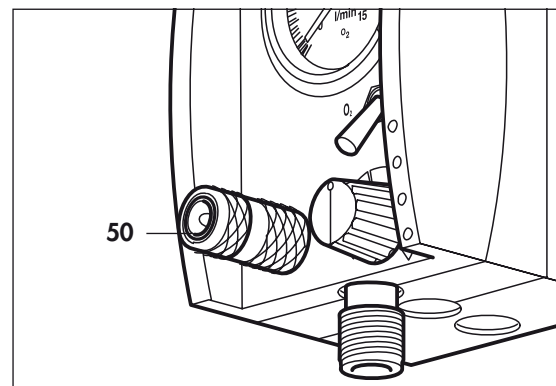
6. Perform a final check (see "3. Final Check" on page 7).

6.2.10 Replacing O-ring of Walther coupling

1. Lift the faulty O-ring 50 out of the coupling.
2. Insert the new O-ring 50 in the coupling so that the O-ring is properly seated in its groove.

Note:

Check that the nipple fits easily into the coupling, and check for leaks in the external pressure supply (see "Checking non-return valve for leaks (Oxygen, Combi and Suction module)" on page 8).

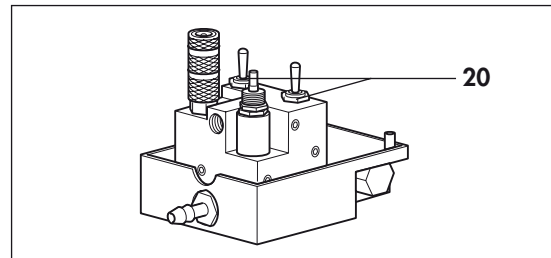


6.2.11 Replacing the pressure regulator (MODULE Oxygen: up to Device No. 1616; MODULE Combi: up to Device No. 1075; MODULE Suction: up to Device No. 1010)

Tools required:

- Crosstip screwdriver, size 1,
- Hex spanner, 2.5 mm,
- Open-ended spanner SW 7,
- Open-ended spanner SW 19 (with AGA coupling),
- Guide pipes, for toggle switches (from Weinmann),
- Special locknut tool G 3/8 and special spanner SW 14.2 from Set WM 15348,
- Special socket wrench with cross-bar for pressure regulator WM 22392.

1. Remove the housing (see "6.2.3 Dismantling the housing" on page 14).
2. Use the special socket wrench with cross-bar to unscrew the pressure regulator by the hexagonal nut.
3. Screw down the new pressure regulator **17** together with the seal in the pneumatic block.
4. Join the two halves of the housing together (see "6.2.4 Assembling the housing" on page 16).
5. Perform a final check (see "3. Final Check" on page 7).



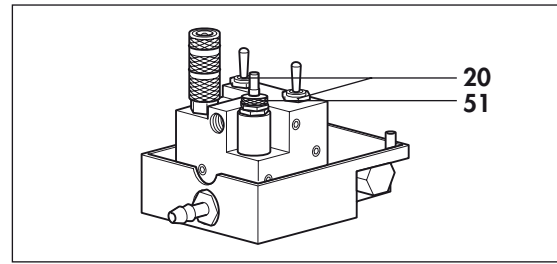
6.2.12 Replacing the pressure regulator (MODULE Oxygen: from Device No. 1617; MODULE Combi: from Device No. 1076; MODULE Suction: from Device No. 1011)

Tools required:

- Crosstip screwdriver, size 1,
- Hex spanner, 2.5 mm,
- Open-ended spanner SW 7,
- Open-ended spanner SW 19 (with AGA coupling),
- Guide pipes, for toggle switches (from Weinmann),
- Special locknut tool G 3/8 and special spanner SW 14.2 from Set WM 15348.

1. Remove the housing (see "6.2.3 Dismantling the housing" on page 14).
2. Unscrew and remove the lock nut for the pressure regulator fixing nut.

3. Place the special spanner SW 14.2 over both nuts of the pressure regulator and unscrew them.
4. Screw down the new pressure regulator **17** together with the seal in the pneumatic block.
5. Fit the spindle limiter screw cap **18** as follows:
 - Screw the pressure regulator nuts as far down as they will go.
 - Screw in regulator spindle by hand until it meets noticeable spring pressure; then unscrew a quarter of a turn .
 - Screw the fixing nuts onto the pressure regulator housing as far as possible.
 - Secure the pressure regulator fixing nuts with the lock nut.
6. Join the two halves of the housing together (see "6.2.4 Assembling the housing" on page 16).
7. Perform a final check (see "3. Final Check" on page 7).



6.3 Suction MODULE

6.3.1 Replacing the sieve in the oxygen inlet

See "6.2.1 Replacing the sieve in the oxygen inlet" on page 13.

6.3.2 Replacing the O-ring in the oxygen outlet

See "6.2.2 Replacing the O-ring in the oxygen outlet" on page 14.

6.3.3 Dismantling the housing

See "6.2.3 Dismantling the housing" on page 14.

6.3.4 Assembling the housing

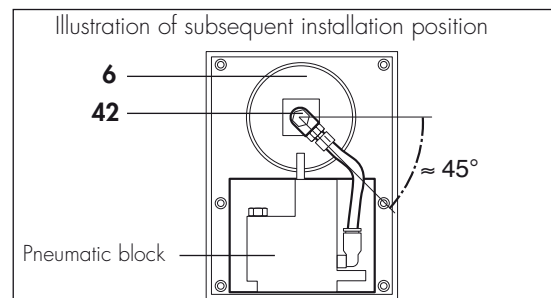
See "6.2.4 Assembling the housing" on page 16, apart from **three exceptions**:

1. Re: **tools required**:

In addition, you will need an open-ended spanner SW 14.

2. Re: step **10**:

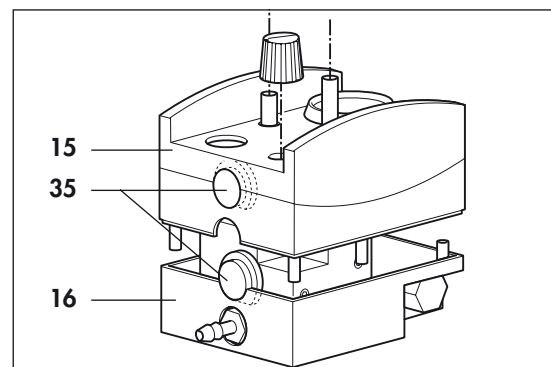
The swivel screw connection must be at an angle of approximately 45° to the horizontal.



3. Re: step **4**:

The installation position of the two blind plugs **35** is different:

- In the housing base section **16**, the flattened side is pointing towards the vacuum connection,
- In the upper housing section **15**, the flattened side is pointing towards the second blind plug.



6.3.5 Replacing the non-return valve in the distributor block

See "6.2.5 Replacing the non-return valve in the distributor block" on page 14.

Important!

Please observe the exceptions for assembling the housing under

- "6.3.4 Assembling the housing" on page 26.

6.3.6 Replacing the pressure gauge

See "6.2.6 Replacing the pressure gauge" on page 20.

Important!

Please observe the exceptions for assembling the housing under

- "6.3.4 Assembling the housing" on page 26.

6.3.7 Replacing the tubes

See "6.2.7 Replacing the tubes" on page 21, but with **three exceptions**:

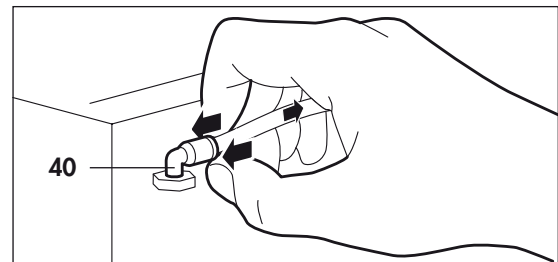
1. Re: step **6.**:

The pressure gauge tube **24** is 80 mm long.

2. Re: steps **4.** to **6.**:

On the pneumatic block, the pressure gauge tube **24** is held by an angular bush **40**, not a single-lug clip.

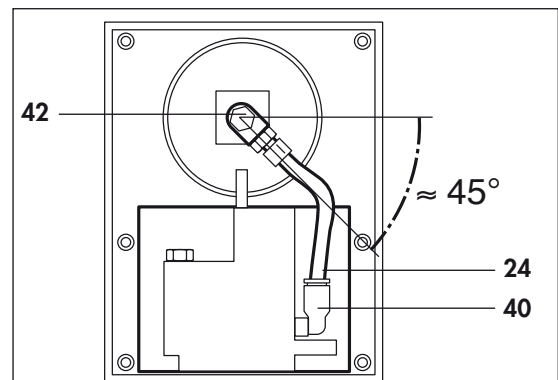
- To release the tube, push back the sleeve of the angular bush **40** and pull out the tube.
- To secure the tube, push it into the angular bush **40** as far as it will go.



3. Re: step **8.**:

In the Suction MODULE, the pressure gauge tube **24** has a different installation position:

The swivel screw connection 42 must be lying at an angle of approx. 45° to the horizontal.



Important!

Please observe the exceptions for assembling the housing under

- "6.3.4 Assembling the housing" on page 26.

6.3.8 Replacing the toggle switch

See "6.2.8 Replacing the toggle switch" on page 22.

Important!

Please observe the exceptions for assembling the housing under

- "6.3.4 Assembling the housing" on page 26.

6.3.9 Replacing the quick-release coupling

See "6.2.9 Replacing the quick-release coupling" on page 22.

Important!

Please observe the exceptions for assembling the housing under

- "6.3.4 Assembling the housing" on page 26.

6.3.10 Replacing the pressure regulator

See "6.2.11 Replacing the pressure regulator (MODULE Oxygen: up to Device No. 1616; MODULE Combi: up to Device No. 1075; MODULE Suction: up to Device No. 1010)" on page 24.

Important!

Please observe the exceptions for assembling the housing under

- "6.3.4 Assembling the housing" on page 26.

6.4 Combi MODULE

6.4.1 Replacing the sieve in the oxygen inlet

See "6.2.1 Replacing the sieve in the oxygen inlet" on page 13.

6.4.2 Replacing the O-ring in the oxygen outlet

See "6.2.2 Replacing the O-ring in the oxygen outlet" on page 14.

6.4.3 Dismantling the housing

See "6.2.3 Dismantling the housing" on page 14, with **one exception**:

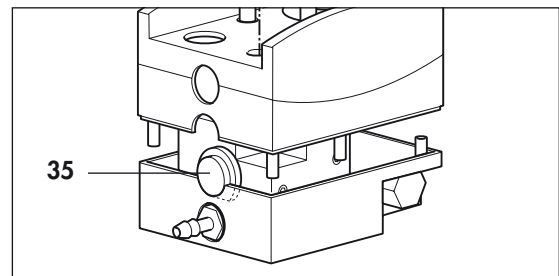
Re: Combi MODULE has two toggle switches:

6.4.4 Assembling the housing

See "6.2.4 Assembling the housing" on page 16, with **two exceptions**:

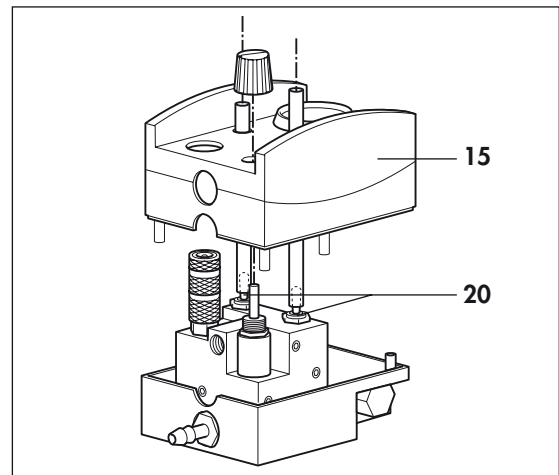
1. Re: step **4.**:

Combi MODULE only requires one blind plug **35**.



2. Re: step **11.**:

As Combi MODULE has two toggle switches, please use a guide pipe over both toggle switches when mounting the upper housing section **15**.



6.4.5 Replacing the non-return valve in the distributor block

See "6.2.5 Replacing the non-return valve in the distributor block" on page 19.

Important!

Please observe the exceptions for dismantling and assembling the housing under

- "6.4.3 Dismantling the housing" on page 29,
- "6.4.4 Assembling the housing" on page 29.

6.4.6 Replacing the pressure gauge

See "6.2.6 Replacing the pressure gauge" on page 20.

Important!

Please observe the exceptions for dismantling and assembling the housing under

- "6.4.3 Dismantling the housing" on page 29,
- "6.4.4 Assembling the housing" on page 29.

6.4.7 Replacing the tubes

See "6.2.7 Replacing the tubes" on page 21.

Important!

Please observe the exceptions for dismantling and assembling the housing under

- "6.4.3 Dismantling the housing" on page 29,
- "6.4.4 Assembling the housing" on page 29.

6.4.8 Replacing the toggle switch

See "6.2.8 Replacing the toggle switch" on page 22.

Important!

Please observe the exceptions for dismantling and assembling the housing under

- "6.4.3 Dismantling the housing" on page 29,
- "6.4.4 Assembling the housing" on page 29.

6.4.9 Replacing the quick-release coupling

See "6.2.9 Replacing the quick-release coupling" on page 22.

Important!

Please observe the exceptions for dismantling and assembling the housing under

- "6.4.3 Dismantling the housing" on page 29,
- "6.4.4 Assembling the housing" on page 29.

6.4.10 Replacing the pressure regulator

See "6.2.11 Replacing the pressure regulator (MODULE Oxygen: up to Device No. 1616; MODULE Combi: up to Device No. 1075; MODULE Suction: up to Device No. 1010)" on page 24.

Important!

Please observe the exceptions for dismantling and assembling the housing under

- "6.4.3 Dismantling the housing" on page 29,
- "6.4.4 Assembling the housing" on page 29.

6.5 Interface MODULE

6.5.1 Replacing the sieve in the oxygen inlet

See "6.2.1 Replacing the sieve in the oxygen inlet" on page 13.

6.5.2 Replacing the O-ring in the oxygen outlet

See "6.2.2 Replacing the O-ring in the oxygen outlet" on page 14.

6.5.3 Dismantling the housing

See "6.2.3 Dismantling the housing" on page 14, with **two exceptions**:

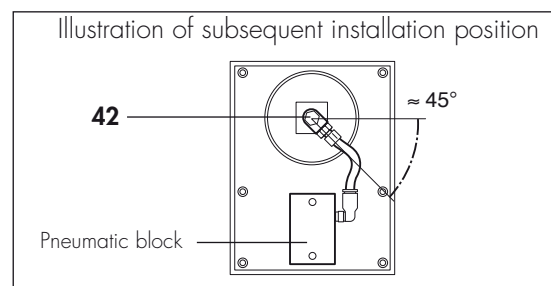
1. Steps **1.** to **4.** do not apply, since Interface MODULE does not have a knob.
2. Step **14.** do not apply, since Interface MODULE does not have a connection for inhalation.

6.5.4 Assembling the housing

See "6.2.4 Assembling the housing" on page 16, with **six exceptions**:

1. Re: step **10.**:

The swivel screw connection 42 must be lying at an angle of approx. 45° to the horizontal.



2. Re: step **4.**:

A blind plug **35** is placed into both the top side and the underside of the device. The flattened side of the blind plug must be pointing towards the base of the device in both cases.

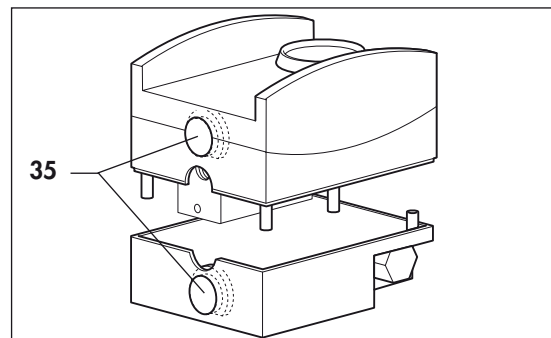
3. Step **11.** does not apply, since Interface MODULE does not have a toggle switch.

4. Re: step **12.**:

During assembly of the two halves of the housing, the two pins on the upper section of the housing must snap into the holes in the housing base section.

5. Steps **13.** to **23.** do not apply, since Interface MODULE does not have a knob.

6. As Interface MODULE does not have a toggle switch, the upper housing section **15** may be mounted on the housing base section **16** without guide pipes.



6.5.5 Replacing the non-return valve in the distributor block

See "6.2.5 Replacing the non-return valve in the distributor block" on page 19.

Important!

Please observe the exceptions for dismantling and assembling the housing under

- "6.5.3 Dismantling the housing" on page 32,
- "6.5.4 Assembling the housing" on page 32.

6.5.6 Replacing the pressure gauge

See "6.2.6 Replacing the pressure gauge" on page 20.

Important!

Please observe the exceptions for dismantling and assembling the housing under

- "6.5.3 Dismantling the housing" on page 32,
- "6.5.4 Assembling the housing" on page 32.

6.5.7 Replacing the tubes

See "6.2.7 Replacing the tubes" on page 21, but with **three exceptions**:

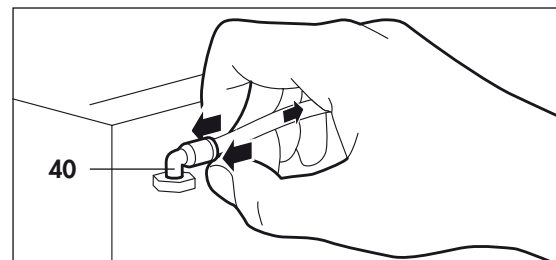
1. Re: step **6.**:

The pressure gauge tube **22** is 60 mm long.

2. Re: steps **4.** to **6.**:

On the pneumatic block, the pressure gauge tube **22** is held by an angular bush **40**, rather than a single-lug clip.

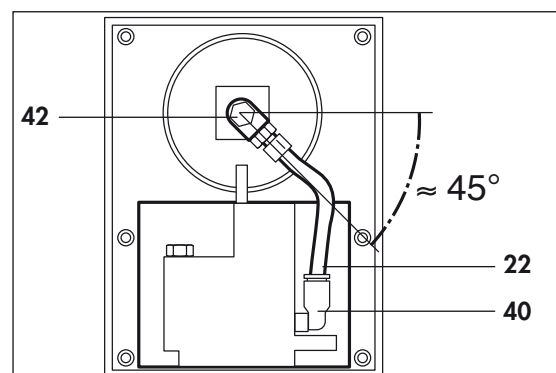
- To release the tube, push back the sleeve of the angular bush **40** and pull out the tube.
- To secure the tube, push it into the angular bush **40** as far as it will go.



3. Re: step **8.**:

In the Interface MODULE, the pressure gauge tube **22** has a different installation position:

The swivel screw connection 42 must be lying at an angle of approx. 45° to the horizontal.



Important!

Please observe the exceptions for dismantling and assembling the housing under

- "6.5.3 Dismantling the housing" on page 32,
- "6.5.4 Assembling the housing" on page 32.

6.5.8 Replacing the quick-release coupling

See "6.2.9 Replacing the quick-release coupling" on page 22.

Important!

Please observe the exceptions for dismantling and assembling the housing under

- "6.5.3 Dismantling the housing" on page 32,
- "6.5.4 Assembling the housing" on page 32.

7. Spare parts

7.1 Spare parts list

Note:

The item numbers in the following table match the numbers in the text of these service and repair instructions and the instructions for use.

Item no.	Designation	Order No.
5	Threaded connection, pre-assembled	WM 22339
6	Pressure gauge – 0 to 15 l/min. – Pressure gauge 0 to 10 bar – Pressure gauge -1.0 to 0 bar	WM 22261 WM 22262 WM 10754
14	Pressure gauge mounting	WM 22223
15	Upper housing section with film – Oxygen – Suction – Combi – Interface	WM 22355 WM 22375 WM 22365 WM 22385
16	Housing base section* consisting of housing and notice – Oxygen/Interface Module – Combi/Suction Module	WM 22358 WM 22359
17	Set of spare parts, pressure regulator – Pressure regulator – Sealing washer	WM 15183 WM 22238 WM 52380
18	Fixing nut M12 x 0.75	WM 22234
19	Pneumatic block** – Oxygen, with Walther coupling, replacement – Oxygen, with AGA coupling, replacement – Suction, with Walther coupling, replacement – Suction, with AGA coupling, replacement – Combi, with Walther coupling, replacement – Combi, with AGA coupling, replacement	WM 22351 WM 22354 WM 22352 WM 22357 WM 22353 WM 22356
20	Set of spare parts, toggle switch – Oxygen/Combi – Suction/Combi	WM 15184 WM 15193
21	Coupling – DIN 13260 – AGA – Set of spare parts, bayonet – Walther	WM 22325 WM 5944 WM 15195 WM 3798
22 23 24 25 26	Set of spare parts, tubes consisting of: – Tube, PU 2/4 60 – Tube, PU 2/4 150 – Tube, PU 2/4 80 – Tube, PU 4/6 118 – Single-lug clip	WM 15264

Item no.	Designation	Order No.
27	Sieve set consisting of 2 seals and 1 sieve	WM 15284
28 29 30 31	Set of fixing components consisting of: – O-ring 8 x 4 – Raised countersunk head screw M4 x 10 DIN 966 – Protective washer Ø 4 – Raised countersunk head screw M4 x 8 DIN 966	WM 15288
32 33 34	Set of spare parts, screws consisting of: – Fillister-head screw KB 30 x 20, 6 off – Raised countersunk head screw M 3 x 6 DIN 966 – Countersunk screw M 3 x 10 DIN 965	WM 15194
35 36 37	Set of spare parts, rubber parts consisting of: – Blind plugs – Rubber buffer, receptacle – O-ring 8 x 4	WM 15266
38 39	Set of spare parts, seals consisting of: – Seal 7 x 14 x 2 – O-ring 6 x 2	WM 15283
40	Angular bush 4/6	WM 22552
41	Swivel screw connection 2/4	WM 22588
42	Swivel screw connection for pressure gauge	WM 4699
43	Straight screw-in bush	WM 7526
44	Seal 5 x 8 x 1	WM 1145/64
45	Knob Ø 15	WM 4897
46	Lid, matt blue, Ø 15	WM 4899
47	Cap, chrome-plated	WM 22204
48	Non-return valve, assembled	WM 22232
49	Pressure screw	WM 1158
50	O-ring 8-1.3	WM 1145/94
51	Counter nut	WM 22226
52	Fixing nut M12 x 0.75	WM 22234
53	Service label: – 2008 – 2009 – 2010 – 2011 – 2012 – 2013 – 2014 – 2015	WM 0498 WM 0499 WM 0300 WM 0609 WM 0610 WM 0366 WM 0301 WM 0302
	Distributor block, assembled	WM 22263
	Loctite, 245	WM 14920
	Oxygen lubricant Berulub	WM 14902

- * When ordering, please specify the model, device number and year of construction
- ** When ordering, please specify the device number

7.2 Spare parts required for servicing

Overview

Years	4	8
Service pack Suction Module	WM 15559	WM 15407
Service pack Oxygen Module	WM 15559	WM 15409
Service pack Combi Module	WM 15559	WM 15411
Service pack Interface Module	WM 15559	WM 15413

Service pack Suction, Oxygen, Combi, Interface Module 4 years

Set WM 15559

comprising:

- Sieve
- Seal 3.5x6x0.5
- Non-return valve, assembled

Service pack Suction Module 8 years

Set WM 15407

comprising:

- Sieve
- Seal 3.5x6x0.5
- Non-return valve, assembled
- 2 port / 2 position valve
- Seal 4x8x0.8
- Seal 4x8x0.5
- O-ring 6x2
- Set of tubes

Service pack Oxygen Module 8 years

Set WM 15409

comprising:

- Sieve
- Seal 3.5x6x0.5
- Non-return valve, assembled
- 2 port / 2 position valve
- Seal 4x8x0.8
- Seal 4x8x0.5
- O-ring 6x2
- Set of tubes

Service pack Combi Module 8 years

Set

WM 15411

comprising:

- Sieve
- Seal 3.5x6x0.5
- Non-return valve, assembled
- 2 port / 2 position valve (WM 22258 MODULE Oxygen)
- 3 port / 2 position valve (WM 22590 MODULE Oxygen)
- Seal 4x8x0.8
- Seal 4x8x0.5
- O-ring 6x2
- Set of tubes

Service pack Interface Module 8 years

Set

WM 15413

comprising:

- Sieve
- Seal 3.5x6x0.5
- Non-return valve, assembled
- Set of tubes

8. Tools and test equipment

Below is a list of all tools and test equipment used in these service and repair instructions.

The particular tools and test equipment required are outlined in each respective chapter.

Special tools can be purchased from the manufacturer Weinmann.

8.1 General tools

- Slotted screwdriver size 0.5 x 3 x 100
- Crosstip screwdriver, size 1
- Crosstip screwdriver, size 2
- Open-ended spanner SW 7 for tube connection on pressure gauge
- Open-ended spanner SW 14 for vacuum connection **10**
- Open-ended spanner SW 16 for cap WM 22204 on oxygen outlet **7**
- Open-ended spanner SW 17 for toggle switch
- Open-ended spanner SW 19 for connection coupling AGA
- Open-ended spanner SW 22 for special tool G 3/8
- Tweezers for sieve set
- Bulldog end cutting nippers for single-lug clips
- Pliers.

8.2 Special tools

The following tools are available from the manufacturers Weinmann:

- Special tool set, consisting of: WM 15348
 - Special spanner SW 14.2 WM 22396
 - Special socket wrench with cross-bar (for pressure regulator WM 15138) WM 22392
 - Special spanner SW 20 with handle bar WM 22391
 - Special tool G 3/8 (for unlocking the AGA coupling and the oxygen inlet **5** and inhalation **11** connections) WM 22827
 - Special tool (for holding the knob **9** steady) WM 22397
 - Guide pipes, for toggle switch. WM 22398
- Set, supply test Medumat / Modules WM 15440
- Set, supply test Modules WM 15441
- Set, test set respiration and pressure reducer flow WM 15443

8.3 Test equipment

- Set of test pressure gauges, vacuum WM 15294
- Pressure gauge 0 – 6,3 bar, class 1.6

Type WIKA

obtainable from:
Alexander Wiegand GmbH & Co.
Alexander-Wiegand-Strasse 30
D-63911 Klingenberg am Main
Tel. +49 9372/1320

- Flowmeter 0 - 20l,

e.g. Yokogawa

or

Type ECU VIP-Ventilatortester

obtainable from:
Eku Elektronik GmbH
Feldstrasse 9a
D-56291 Leiningen
Tel.: +49 6746-1018
Fax: +49 6746-8484
www.eku-elektronik.de

9. Technical data

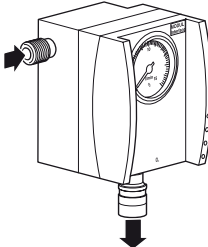
	Oxygen MODULE	Suction MODULE	Combi MODULE	Interface MODULE
Product category according to 93/42/EEC	IIa			
Dimensions L x B x H in mm	100 x 125 x 90	100 x 130 x 90		100 x 172 x 90
Weight	0.9 kg	0.9 kg	0.95 kg	0.65 kg
Temperature range for – operation – storage	–18 °C to +60 °C –40 °C to +70 °C			
Gas input	medicinal oxygen			
Operating pressure	2.76 bar possible, 4.5bar recommended			
Minimal gas volume required.	≥ 80 l/min O ₂			
Pressure gas connection	External thread G3/8; NIST adapter available on request			
Oxygen flow	variable from 0 to 15 l/min		variable from 0 to 15 l/min	
Tolerance limits – at 0 – 3.9 l/min – at 4 – 15 l/min	±15% ±10%		±15% ±10%	
DIN ISO 10079-3 classification		medium vacuum		



9.1 External oxygen flow volume

The following flow volumes apply when oxygen is supplied to other equipment.

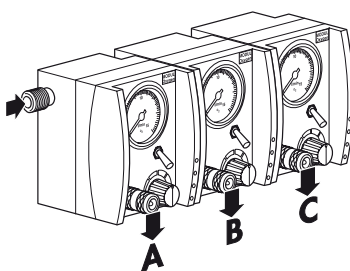
Interface MODULE

	Oxygen input	External oxygen flow volume
	2.7 bar dynamic operating pressure at 80 l/min	not less than 70 l/min
	from Weinmann pressure reducer WM 1102/106	not less than 100 l/min
	from Weinmann pressure reducer WM 30301	not less than 90 l/min

More than one module

When several modules are connected in series, the flow volume decreases with the module's distance from the oxygen input. This is due to the high flow resistance arising when the oxygen passes through more than one module.

The figures are based on the assumption that oxygen is being supplied only from one module at a time.

	Oxygen input	External oxygen flow volume		
		A	B	C
	2.7 bar dynamic operating pressure at 80 l/min	not less than 76 l/min	not less than 73 l/min	not less than 70 l/min
	from Weinmann pressure reducer WM 1102/106	not less than 100 l/min	not less than 95 l/min	not less than 90 l/min
	from Weinmann pressure reducer WM 30301	not less than 91 l/min	not less than 88 l/min	not less than 85 l/min

9.2 Oxygen flow volume from inhalation connection

Input pressure	2.7 bar	3.0 bar	3.5 bar	6.0 bar
Maximal oxygen flow volume	11 l/min	12 l/min	15 l/min	15 l/min

Tolerance $\pm 10\%$

9.3 Aspiration efficiency

Maximal suction

The maximal suction exerted by the Combi and Suction MODULES depends on the input pressure of the oxygen supply. The data below are valid for a 2 litre aspirate bottle.

Input pressure p2	Max. vacuum	Maximal suction	Oxygen consumption
2.7 bar	- 0.40 bar	8.4 l/min	9.3 l/min
3.0 bar	- 0.44 bar	8.6 l/min	10.1 l/min
3.5 bar	- 0.53 bar	8.8 l/min	11.4 l/min
4.0 bar	- 0.58 bar	9.0 l/min	12.2 l/min
4.5 bar	- 0.60 bar	9.0 l/min	14.0 l/min
5.0 bar	- 0.60 bar	9.0 l/min	15.0 l/min
5.5 bar	- 0.60 bar	8.7 l/min	17.0 l/min
6.0 bar	- 0.60 bar	8.5 l/min	19.0 l/min

Tolerance limits $\pm 10\%$. If a bacterial filter is used, the aspiration efficiency will diminish by between 1 and 3 l/min, depending on the atmospheric humidity.

Aspiration efficiency of Suction MODULE

The suction exerted by the Suction MODULE varies according to the degree of vacuum selected at any given time. The data below are valid for a 2 litre aspirate bottle.

Selected vacuum	Suction	Oxygen consumption	Required input pressure p2
- 0.2 bar	5.3 l/min	6.5 l/min	2.7 – 6 bar
- 0.3 bar	6.5 l/min	7.7 l/min	2.7 – 6 bar
- 0.4 bar	8.4 l/min	9.3 l/min	2.7 – 6 bar
- 0.5 bar	8.3 l/min	10.5 l/min	3.5 – 6 bar
- 0.6 bar	9.0 l/min	14.0 l/min	4.5 bar

Tolerance limits $\pm 10\%$. If a bacterial filter is used, the aspiration efficiency will diminish by between 1 and 3 l/min.

10. Technical Changes

Technical change	From Device No.	Date
With screw cap WM 20522	1618	17.08.98
White cap	2396	15.01.99
Counter nut V2A WM 22226	2896	07.05.99
New screw cap WM 22234	4096	10.01.00
Reinforcement for lower part of housing	14101	17.05.04

11. Repair and inspection log

11.1 Oxygen MODULE

Device master data	Inspections and repairs carried out in accordance with the service instructions
Manufacturer: Weinmann GmbH + Co. 22525 Hamburg Device model: Oxygen MODULE ☐ WM 22200 with Walther coupling ☐ WM 22240 with AGA coupling Serial no.: _____ Date of manufacture: _____	Service performed in accordance with MODULE service instructions Company _____ _____ Date _____ Signature _____
Functional check: Before each use _____ After each use _____ Every 6 months _____ After every repair _____	Company _____ _____ Date _____ Signature _____

11.2 Suction MODULE

Device master data	Inspections and repairs carried out in accordance with the service instructions	
	Measures / Comments	Service performed in accordance with MODULE service instructions
Manufacturer: Weinmann GmbH + Co. 22525 Hamburg		Company _____ Date _____ Signature _____
Device model: Suction MODULE		
☐ WM 22220 with Walther coupling		
☐ WM 22260 with AGA coupling		
Serial no.: _____		
Date of manufacture: _____		
Functional check:		
Before each use _____		
After each use _____		
Every 6 months _____		
After every repair _____		

11.3 Combi MODULE

Device master data	Inspections and repairs carried out in accordance with the service instructions
Manufacturer: Weinmann GmbH + Co. 22525 Hamburg	Measures / Comments Service performed in accordance with MODULE service instructions
Device model: Combi MODULE	Company
☐ WM 22210 with Walther coupling	
☐ WM 22250 with AGA coupling	
Serial no.: _____	Date _____ Signature _____
Date of manufacture: _____	Company
	Date _____ Signature _____
Functional check:	Company
Before each use _____	
After each use _____	Date _____ Signature _____
Every 6 months _____	Company
After every repair _____	Date _____ Signature _____

11.4 Interface MODULE

Device master data	Inspections and repairs carried out in accordance with the service instructions	
	Measures / Comments	Service performed in accordance with MODULE service instructions
Manufacturer: Weinmann GmbH + Co. 22525 Hamburg		Company _____ Date _____ Signature _____
Device model: Interface MODULE		
☐ WM 22290 with Walther coupling		
☐ WM 22280 with AGA coupling		
☐ WM 22270 with Shraeder-Valve coupling		
☐ WM 22230 with Dräger coupling		
Serial no.: _____		
Date of manufacture: _____		Date _____ Signature _____
Functional check:		Company _____
Before each use _____		
After each use _____		Date _____ Signature _____
Every 6 months _____		Company _____
After every repair _____		Date _____ Signature _____

For decades Weinmann has been developing, producing and marketing medical devices for markets around the world. In cooperation with our partners we design economic health systems for diagnosis and therapy in Sleep Medicine, Home Mechanical Ventilation, Oxygen Medicine and Emergency Medicine.

WEINMANN

Weinmann
Geräte für Medizin GmbH + Co. KG
P.O. Box 540268 · D-22502 Hamburg
Phone +49/40/5 47 02-0
Fax +49/40/5 47 02-461
E-mail int.sales@weinmann.de
Internet www.weinmann.de