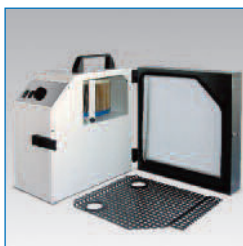


V4000

Portable Suction Unit



zubler

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0. ■ Introduction

0.1 Declaration of conformity

We, Zubler GmbH
 Buchbrunnenweg 26
 89081 Ulm-Jungingen /Germany

declare that the product portable suction unit

V4000

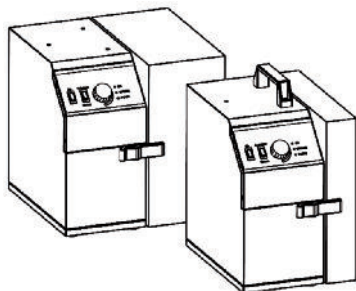
corresponds to the regulations of the following directives in regard to protective requirements

2014/30/EU EMV-Directive

2014/35/EU Low-Voltage Directive

2006/42/EG Machines Directive

Any modification not specifically approved by us voids the validity of this declaration.



A handwritten signature in black ink, which appears to read 'Kurt Zubler'.

Kurt Zubler
Managing Director

0.2 General hints

Dear customer,

we are pleased that you decided for the suction unit from our house and wish you a pleasant and failure-free operation.

The portable suction unit V4000 excels by its high suction performance and its two-stage filtering system.

This filtering technology conforms with the DIN EN 60335-2-69 standard (dust class M) and provides an easy handling.

The continuous further development of our technology is based on the close cooperation with experienced dental technicians. Our focus is on making the suction technology easier, more comfortable and on reducing the noise during the suction process with regard to operating efficiency and cost-effectiveness.



0.3 Regular usage

This suction unit is designed only for the indoor use and exclusively for dry dust !!

Collecting other types of dust or gas must be clarified with the manufacturer before putting the unit into operation.

Upon the occurrence of visible dust fall or a sensibly insufficient vacuuming performance the work must be interrupted immediately and the installation be switched off. Inform your dealer or our service team.

The use is limited to persons instructed in handling and charged with the usage.

0.4 Environment

Temperature	+5°C to +40°C
Air humidity	max. 80% (@ 30°C)
Max. load	max. 1150 W

0.5 Setting up

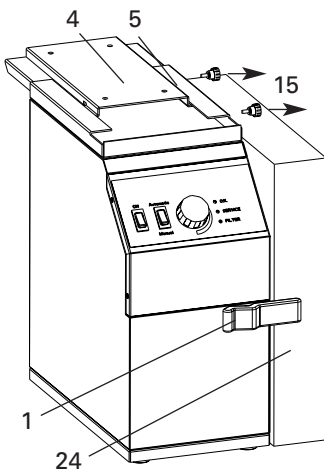


Fig. 0.1: V4011 front view

- | |
|---------------------|
| 1 Buckle |
| 4 Rail system base |
| 5 Rail system slide |
| 15 Knurled screw |
| 24 Filter door |

- The unit must not be used lying aside or upside down.
- The exhaust, located below the bottom cover, must be kept free.
- Do not use the unit on long haired carpet.

0.5.1 V40x1 (mounting rail)

- Mount the rail base (4) under your workbench close to your intake system. Use four screws Ø5x20mm or M5x20mm screws.
- There must be approx. 200mm space to the backside of the unit for the electrical and vacuum connections.
- Slide the unit into the rail base (4) until limit stop. Tighten the knurled screws (15) to fix the unit.
- To remove the unit, push the unit upwards and pull it to the front.

0.5.2 V40x0 (handle)

- Place the unit close to your intake system on a plain and even floor.
- Ideally slide the unit under the table. Pay attention that the housing is not hooked at any place otherwise vibrations causing noise can be transmitted to the table.

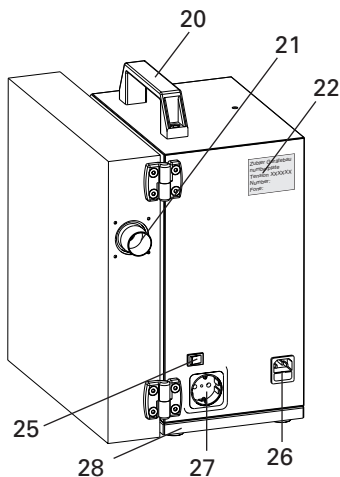


Fig. 0.2: V4010 back view

20 Handle

21 Vacuum nozzle

22 Number plate

25 Sensitivity switch

26 Power socket

27 Autom. socket

28 Bottom cover

ZUBLER Gerätebau GmbH

Buchbrunnenweg 26
D-89081 Ulm
Tel. +49(0)731 1452-0 / www.zubler.de



Absauganlage
V4010

Spannung 230V

Gesamtleistung max. 1150W

Absaugung max. 700W

Automatiksteckdose 450W

V4010 00-11111-22



Made in
Gera

0.5.3 Connecting the unit

- Before connecting the unit to the mains, check if the tension given on the number plate corresponds with your local tension.
- Plug the power cord supplied with the unit into the power socket (26) and connect it to your local mains supply.
- Slide one side of the enclosed vacuum hose onto the conical side of the vacuum nozzle (21), the other side firmly onto your intake system. For longer distances use $\varnothing 40\text{mm}$ or $\varnothing 50\text{mm}$ hose or pipe.

0.5.4 Connecting the technical gear

- Plug in the power cord of your technical gear (e.g. handpiece) into the autom. socket (27). The power consumption of this gear may not exceed 450W !
- In order to make use of the automatic operation mode of the suction unit, you will have to set up the sensitivity setting for your technical gear. Choose the best matching sensitivity setting with the sensitivity switch (25).
- If your technical gear does not work reliably with one of the three switch positions, an internal sensitivity adjustment is necessary.
- For sensitivity adjustment see chapter 2.

Fig. 0.3: Number plate

1. ■ Functions

1.1 Front panel

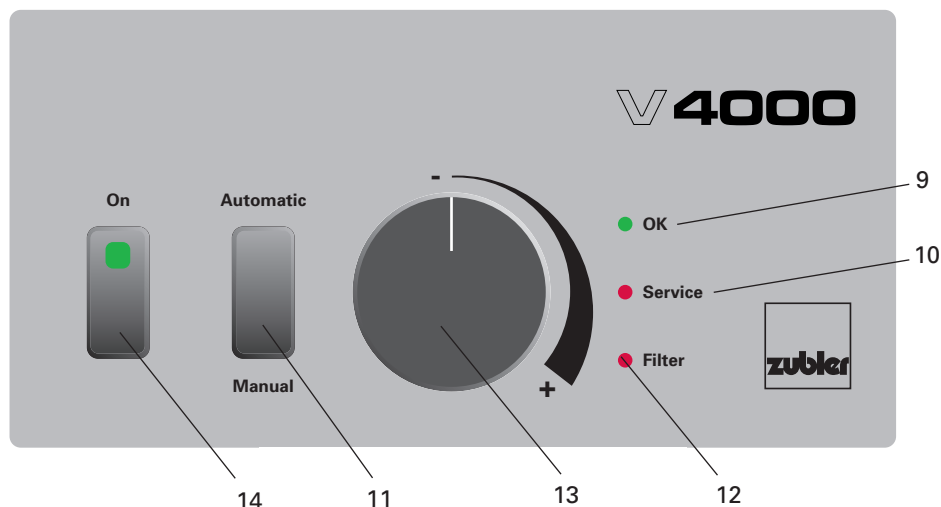


Fig. 1.1: Front panel

9 LED OK
10 LED Service
11 Autom. / Manual switch
12 LED Filter
13 Suction volume
14 Main switch

1.2 Starting the unit

- Switch the Automatic / Manual switch (11) to Manual position to use the manual operation mode. In this mode the suction starts immediately after the suction unit is switched on.
- Switch the main switch (14) to On position to start the suction unit. The main switch is illuminated green. Adjust the required suction volume with turn knob (13).
- Switch the Automatic / Manual switch (11) to Automatic position to use the automatic operation mode. In this mode the suction starts automatically after the technical gear (e.g. handpiece) is started.
- For sensitivity adjustment see chapter 2.

1.3 Operation

- The green LED "OK" (9) indicates a normal operation.
- The red LED "Service" (10) indicates an electric malfunctioning (e.g. worn out carbon brushes of the motor).
- The red LED "Filter" (12) indicates a filled up filterbag, a clogged finefilter cartridge or a clogged intake line. The suction is stopped automatically and the connected technical gear cannot be operated.
- Switch off the suction unit with the main switch (14). Also switch off your technical gear to avoid an erroneous startup after the malfunction will have been remedied. Change the filterbag and / or the fine filter cartridge and check the intake line.
- For filter change see chapter 3.

2. ■ Adjustments

2.1 Sensitivity settings

Plug in the power cord of the technical gear (e.g. handpiece) into the automatic socket (27) (Fig.0.2) of the suction unit. The max. load may not exceed 450W !

Use one of the three predefined sensitivity settings of the external sensitivity switch (25). The order of the switch positions is as follows :

- | | | |
|-----|--------------------|----------------------------------|
| I: | Low sensitivity | (Schick CN, KaVo SF) |
| 0: | Medium sensitivity | (W+H Elco 2) |
| II: | High sensitivity | (Schick C2 & SM78, KaVo K9, K10) |

If your technical gear does not work reliably with one of the three sensitivity switch positions, an internal sensitivity adjustment is necessary.

2.2 Sensitivity adjustment

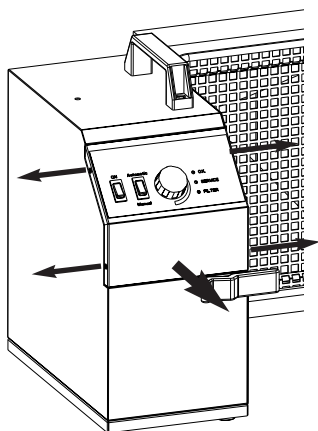


Fig. 2.1

- Remove the 4 screws holding the front panel. Pull the cover carefully to the front and put it aside.



Attention!

Pull mains plug before opening the unit!

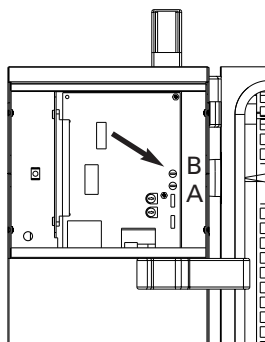


Fig. 2.2

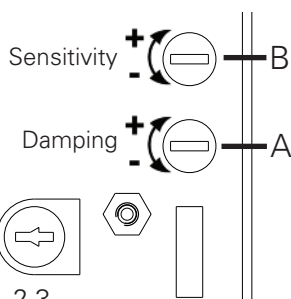


Fig. 2.3

- The adjustment is performed by turning rheostat B on the PC-board into the needed direction.
- If the suction unit does not shut off although the handpiece is not actuated, the sensitivity is too high. Turn rheostat B to minus (- = CCW).
- If in a reversed case the suction unit does not start after actuating the handpiece, the sensitivity is too low. Turn rheostat B to plus (+ = CW).



Take care that neither hoses nor wires inside the electronic room are pinched or twisted.

2.3 KaVo K-Control

- If the external sensitivity switch (25) (Fig. 0.2) is on level II the suction unit will run continuously, even if the handpiece is not actuated. (Sensitivity too high)
- On level 0 the unit will not start with the lowest rotation speed 5000 rpm. (Sensitivity too low)
- Switch externally to level 0 and increase the sensitivity by turning rheostat B to plus (+) until the unit starts running.
- Alternatively you may also switch externally to level II and decrease the sensitivity by turning the rheostat to minus (-) until the unit stops running.

3. ■ Filter change

3.1 Replacing the filter bag

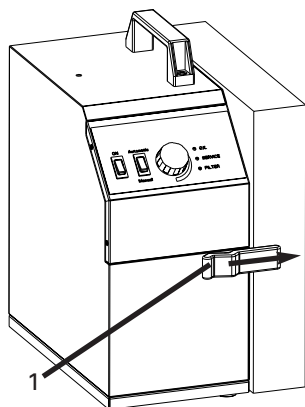


Fig. 3.1

- Switch off the unit with the main switch (14) and open the buckle (1).
- Open the door (24) and remove the grid (16) by pushing it upwards (I), shifting it outside (II) and pulling it downwards (III).
- For a better accessibility the door (24) can be removed by lifting it upwards out of the hinge pins.

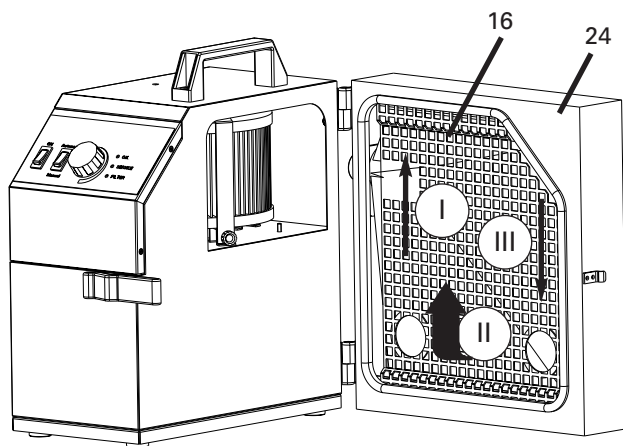


Fig. 3.2

- | | |
|----|--------|
| 1 | Buckle |
| 3 | Nozzle |
| 16 | Grid |
| 24 | Door |

Perform a **filter** change only with an appropriate protective equipment.
(Gloves, breathing mask)



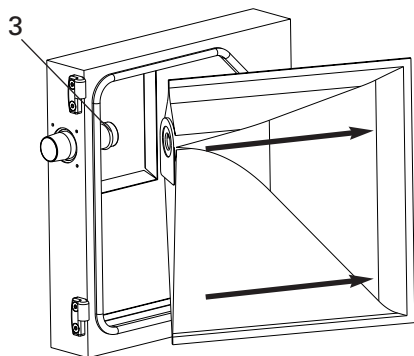


Fig. 3.3

- Pull the gasket off the nozzle (3). Pull off the adhesive foil from the gasket and close the opening with the adhesive foil.
- Store the filter bag immediately in a dust-tight plastic bag and dispose the filter bag according to your local prescriptions.
- Insert a new filter bag into the door and slide the gasket over the pipe (3).
- Insert the grid (16) again.
- Close the door (24) and the buckle (1).



Store and eliminate contaminated filters immediately after withdrawal in a dust-tight lockable plastic bag.

Activated carbon filters must be changed periodically. The period is dependant on type, amount and concentration of the vacuumed fumes and gases.

3.2 Replacing the fine filter

The V4000 is additionally equipped with a fine filter cartridge.

Its function is to collect fine dusts which volatilize through the main filter or are set free during the filter bag replacement.

If the red LED "Filter" (12) (Fig.1.1) is still lighted although the filterbag was already replaced or if the change intervals of the filter bag get sensibly shorter, the cause is a clogged fine filter cartridge.

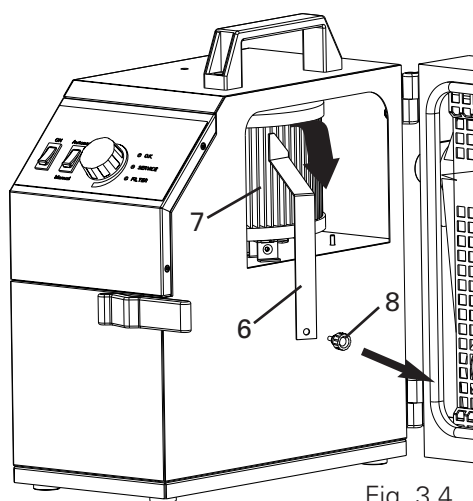


Fig. 3.4

6 Transport clamp

7 Fine filter cartridge

8 Knurled screw

- Switch off the unit with the main switch (14) and open the buckle (1) (Fig. 3.1).
- Open the door (24) (Fig. 3.2) and remove the transport clamp (6) by unscrewing the knurled screw (8).
- Flip the fine filter cartridge (7) forward and remove it through the opening.
- Insert the new cartridge (7) and fix the transport clamp (6) with the knurled screw (8)
- Close the door (24) and the buckle (1).

4. ■ Intake system

4.1 Requirements

Basic requirements upon an intake system are beside, an optimal dirt collection, the avoidance of disturbing flow noises and the support of an ergonomic working position.

4.2 R1200/R1250

These properties can only be achieved with an intake system especially matching the V4000 consisting of

- Suction funnel R1200
- Suction funnel R1250 (ceramics, gold)
- Rectangular pipe R1000, R1300
- Silencer R1100.

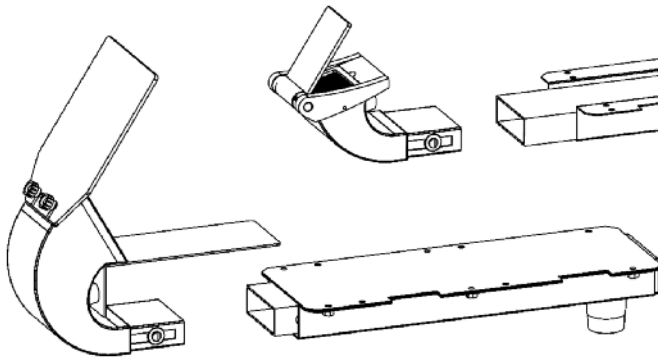


Fig. 4.1

- Upright seat position on an appropriate seat furniture.
- Workpiece as close to the suction funnel as possible, no dust fog may be visible. Dust streaks must be pulled into the funnel.
- Viewing direction onto the workpiece vertical to the safety glass.

5. Trouble shooting

Fehlererkennung	Ursache	Abhilfe
LED „Filter“ illuminated	<p>Due to a filled up filter bag and/or a clogged fine filter as well as a clogged suction line, the minimum suction performance can no longer be granted.</p> <p>The internal electronics interrupt the vacuuming operation.</p>	<p>Change the main filter (see chapter "Main filter change"). If the indication does not extinguish also change the fine filter (see chapter "fine filter change"). If the indicator light will still not extinguish check the suction line, starting with the intake system, with regard to clog ups.</p>
LED „Service“ illuminated	<p>An electrical disturbance mostly caused by worn out carbon brushes of the suction motor after an operating period of about 2 – 3 years.</p>	<p>Replace the used up carbon brushes (instructions will be sent with the replacement brushes).</p> <p>Carbon brushes must and can be replaced but only once. A worn out collector can only be remedied by exchanging the motor.</p>

Fehlererkennung	Ursache	Abhilfe
Suction does not start (main switch (14) is NOT illuminated)	No mains supply or mains switch not switched on. Fuse burnt-out due to overcharging.	Check the mains connection. Switch the main switch (14) into "On" position, the main switch is illuminated green. Check the fuse inside the cold gear socket and also the breaker on the installation side.
Suction does not start in "Automatic"-mode	Sensitivity level of the automatic socket is too low.	Select a different sensitivity switch position (see chapter "Setting-up").
Suction does not switch off in "Automatic"-mode (Suction runs continuously)	Sensitivity level of the automatic socket is too high; Spark discharge due to renewed carbon brushes.	Select a different sensitivity switch position (see chapter "Setting-up"). New carbon brushes need a run-in period of about 2 – 3 hours.
<p>Please ask your local dealer or call our service team at +49 (0)731 1452-58.</p> <p>You can reach us from :</p> <p>Mo – Thu 8-17h,</p> <p>Fr 8-13h</p> <p>For faster processing keep model type and serial number ready at hand. You can find these data on the type label near the automatic socket.</p>		

6. ■ Maintenance

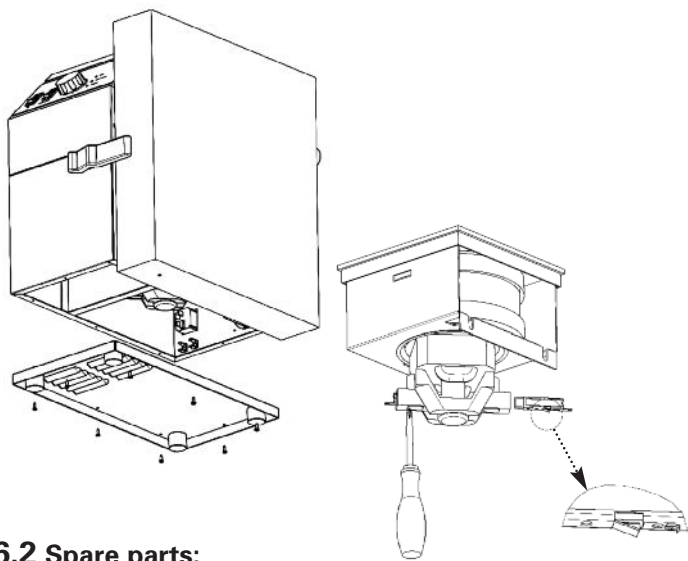
Before cleaning and servicing the gear and also before replacing spare parts the suction unit must be separated from the mains supply !

Wipe off any outer soiling with a mere moist cloth, protect the suction unit from water penetration !

Maintenance works on electrical parts of the unit must solely be carried out by expert personnel or by persons having been trained.

We recommend to verify the suction performance once per annum or to let an instructed person do this check with regard to tightness against dust and to functioning.

6.1 Replacing the Carbon Brushes



6.2 Spare parts:

		Order.-No.
Filter bag	small door	556/003
	wide door	556/0063
Fine filter cartridge		556/019
Activated carbon cartridge		556/0041
Activated carbon refill kit		556/0042
Carbon brushes (1 pair)		037/10240

7. Data

7.1 Dimensions:

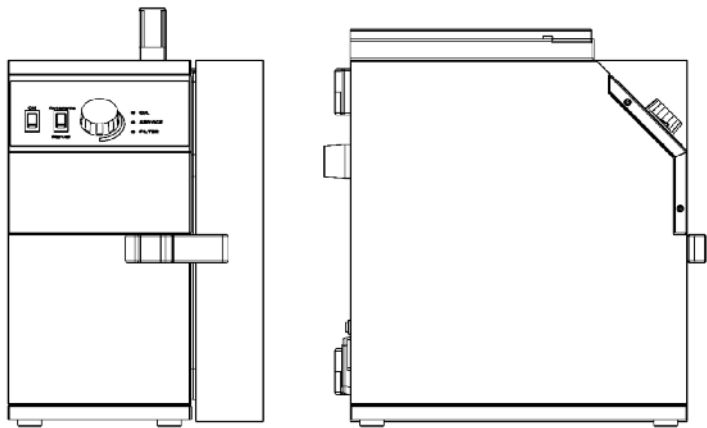
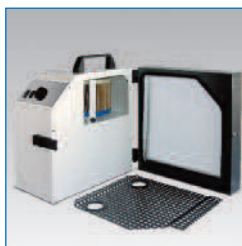


Fig. 7.1

7.2 Technical data:

Width	small / wide door		256/375 mm
Height	handle / mounting rail		435/415 mm
Depth	400 mm		
Weight	small / wide door		20/25 kg
Tension (see number plate)	100V / 115V	230V / 240V	50-60 Hz
Fusing	main fuse	T10 A	T6,3 A
	autom. socket (internal)	T4 A	T2 A
Total power consumption	max.1150 W		
Nominal power	suction unit	max. 700 W	
	autom. socket	max. 450 W	
Filter bag :			
Filter surface	small / wide door		0,3 / 0,6 m²
Dust capacity	small / wide door		approx. 3 / 6 kg
Fine filter cartridge :			
Filter surface	0,7 m²		
Volume flow	90-130m³/h		
Low pressure	8.000 - 13.000 Pa		
Sound level	52-61 dB(A)		



V4000-en 10-2018

Subject to technical amendments!

