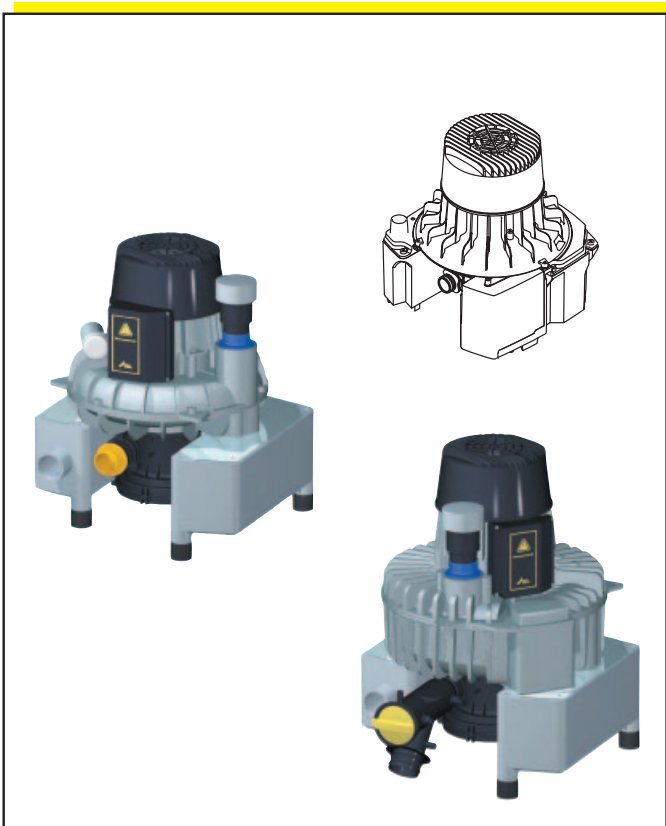


Installation and operating instructions VS 300 S / VS 600 / VS 900 combi-suction unit

GB



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Important Information

1. Notes

1.1 Test of conformity

This product was tested for conformity to the Guidelines 93/42/EWG of the European Union and has been found to satisfy all criteria of these guidelines.

1.2 General Notes

- These Installation and Operating Instructions form an integral part of the unit. They must be kept close to the unit at all times. Precise observance of these instructions is a pre-condition for use of the unit for the intended purpose and for its correct operation. New personnel must be made aware of the contents, and they should be passed on to future operating staff.
- Safety for the operator as well as trouble-free operation of the unit are only ensured if use is made of original equipment parts. Moreover, use may only be made of those accessories that are specified in the technical documentation or that have been expressly approved and released by Dürr Dental for the intended purpose.
- Dürr Dental cannot guarantee for the safety or proper functioning of this unit in the case where parts or accessories are used which are not supplied by Dürr Dental.
- Dürr Dental are only responsible for the equipment with regard to safety, reliability and proper functioning where assembly, resettings, changes or modifications, extensions and repairs have been carried out by Dürr Dental or an agency authorized by Dürr Dental and if the equipment is used in conformity with the Installation and Operating Instructions.
- These Installation and Operating Instructions conform to the relevant version of the equipment and the underlying safety standards valid at the time of going to press. All switches, processes, trade marks, software programs and appliances named in this document are registered names.

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

1.3 General Safety Notes

This appliance has been designed and constructed by Dürr Dental so that correct usage of the appliance is virtually free of any possible injury or danger. In spite of this, we feel it is our duty to mention the following safety measures in order to prevent any possible danger.

- When using this appliance all local and relevant regulations must be observed! Converting or modifying the appliance in any way is strictly prohibited. In such cases, any and all guarantees immediately become invalid. The operation of modified appliances can be punishable by law. In the interests of trouble-free operation the operator is responsible for observing these regulations.
- Retain the packaging for possible return of the product to the manufacturers. Ensure that the packaging is kept out of the reach of children. Only the original packaging provides adequate protection during transport of the unit. Should return of the product to the manufacturers be necessary during the guarantee period, Dürr Dental accepts no responsibility for damage occurring during transport where the original packaging was not used!
- Before every use the operator must check the functional safety and the condition of the appliance.
- The operator must be knowledgeable in the operation of the appliance.
- The product is not designed to be used in medical treatment areas where there exists the danger of explosion. Areas where explosions could occur are those where flammable anesthetic material, skin cleansers, oxygen and skin disinfectants are present. This appliance is not to be used in areas where the atmosphere could cause fire.

1.4 Notes concerning Medical Appliances

- This product is a medical technical appliance and may only be used by those persons whose training and/or experience guarantees correct usage.

1.5 Using Peripheral Devices

- Units may only be connected to the system or to other units when it has been established that there is no reduction of safety for the patient, the operator or the environment through such connection. Where it is not absolutely clear from the documentation whether safety is reduced by such connection, then the operator must establish, e.g. by contacting either the manufacturer or an expert, that there is no reduction of safety for the patient, the operator or the environment through such connection.

1.6 Safety notes concerning electric current

- This unit may only be connected to a standard approved earthed electrical socket (VS 600 + VS 900).
- Before connecting the appliance to the mains, check that the frequency and voltages given for the appliance match those of the available power supply.
- Before commissioning the appliance all connections must be checked for possible damage. Damaged connections, plugs and sockets should be replaced immediately.
- Never touch patients and open sockets of the appliance simultaneously.
- All relevant electrical rules and regulations must be observed during installation and when carrying out any repairs or maintenance on the appliance.

1.7 Warnings and Symbols

The operating and installation instructions contain the following labeling and symbols for especially important information.



Restrictions and regulations concerning the prevention of injury or damage.



Warning concerning dangerous electrical voltage.



Special instructions concerning economic use of the appliance or other notes.



Observe notes in supplementary documentation



For added safety of operators protective gloves should be worn while working on the Suction Units.



Take environmental influences into consideration.



Date of manufacture.



Ground connection.



Fuse.



Recycling

~ Single phase AC current.

3~ Three-phase AC current.

3N~ Three-phase AC current with central conductor.

2. Product information

2.1 Correct Usage

The suction unit has been designed to produce a vacuum in order to suck up saliva, rinsing water and other fluids which occur during dental treatment and which are transported to the waste water system.

Installation in medical facilities:

As far as was possible, all requirements concerning Medical Products have been taken into consideration in the design and production of these appliances. Thus, the appliance may be installed in any facility providing medical treatment.

Where the appliance is set up in a medical clinic or other facility, then the requirements demanded under directive 93/42 EWG as well as all relevant standards must be observed on installation.

2.2 Incorrect Usage

Any usage above and beyond that explicitly laid down in the operating instructions is deemed to be incorrect usage. The manufacturer accepts no liability for damage or injury resulting from incorrect use. All risk is carried by the operator.

2.3 Product Description

The combi-suction unit is a suction unit with an integrated separation unit. Separation within the treatment station (e.g. chair) is no longer necessary.

The suction unit separates the fluids and solid particles sucked up during treatment from the air using a two-step separation system of cyclone separator and separation turbine. The separation turbine is especially effective at preventing fluids and blood foam from being sucked into the turbine section of the suction unit.

The fluids sucked up are continually being rotated at high speed and transported to the waste system; thus, there is no interruption of suction due to the system being too full.

The suction system is mounted on rubber mountings, which reduce vibration and operating noise.

3. Delivery Contents



The items listed under Special Accessories **are not** included in the standard delivery contents, but can be ordered specially.

3.1 Suction unit VS 300 S

3.1.1 Contents

Model 7122-01/002

Typ 230 V, 1~, 50 Hz
with control unit

Model 7122-02/002

Typ 230 V, 1~, 60 Hz
with control unit

Model 7122-05/003

Typ 100 V, 1~, 50 - 60 Hz
with control unit

3.1.2 Accessories

Connector set	7122-001-00
Suction hose LW 30, grey	9000-317-27
Hose LW 20	9000-317-22
Hose LW 30, Aluminium	9000-317-37
OroCup (not Japan)	0780-350-00

3.1.3 Special Accessories

Wall mounting	7130-190-00
Housing	7122-200-00
Exhaust bacterial filter with accessories	7120-143-00
Rinsing unit	7100-250-50

3.2 Suction Unit VS 600

3.2.1 Contents

Model 7128-01/001

Type 230 V, 1~, 50 Hz
with control unit

Model 7128-02/002

Type 400 V, 3~, 50–60 Hz
with control unit

Model 7128-02/003

Type 230 V, 3~, 50-60 Hz
with control unit

Model 7128-05/003

Type 200 V, 3~, 50-60 Hz
with control unit

3.2.2 Accessories

Control unit	
for type 7128-01/002	0700-500-50
for type 7128-02/002	0732-100-56
for type 7128-02/003	0732-100-57
for type 7128-05/003	0732-100-57
Pipe connector set	7128-001-00
Hose LW 40	9000-318-70
Hose LW 50..	9000-317-002
Hose LW 20	9000-317-22
OroCup	0780-350-00

3.2.3 Special accessories

Noise reducing cover	7128-991-00
Pressure compensation hose	7112-101-00
Wall mounting	7130-190-00
Floor installation console	7130-191-00
Bacterial exhaust filter	0732-001-00
Fixing plate for exhaust filter	0732-000-06
Noise reducer for exhaust	0730-991-00
Rinsing Unit	7100-250-50

3.3 Suction Unit VS 900

3.3.1 Contents

Model 7133-01/001

Type 230 V, 1~, 50 Hz
without control unit

Model 7133-02/001

Type 400 V, 3~, 50 Hz
without control unit

Model 7133-01/002

Type 230 V, 1~, 50 Hz
with control unit

Model 7133-02/002

Type 400 V, 3~, 50 Hz
with control unit

Model 7133-03/002

Type 230 V, 3~, 50 Hz
with control unit

Model 7133-05/002

Type
200 V, 3~, 50-60 Hz
230 V, 3~, 60 Hz
with control unit

3.3.2 Accessories

Control unit	
for type 7133-01/002	0732-100-55
for type 7133-02/002	0732-100-56
for type 7133-03/002	0732-100-57
for type 7133-05/002	0732-100-59
Pipe connector set	7133-001-00
Hose LW 20	9000-317-22
Hose LW 50 (0.6m)	9000-317-001
Hose LW 50 (1.5m)	9000-317-002
OroCup	0780-350-00

3.3.3 Special accessories

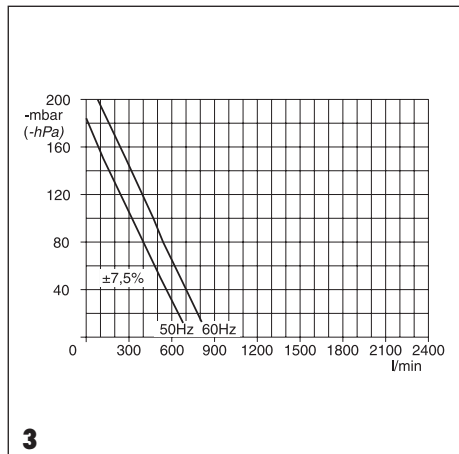
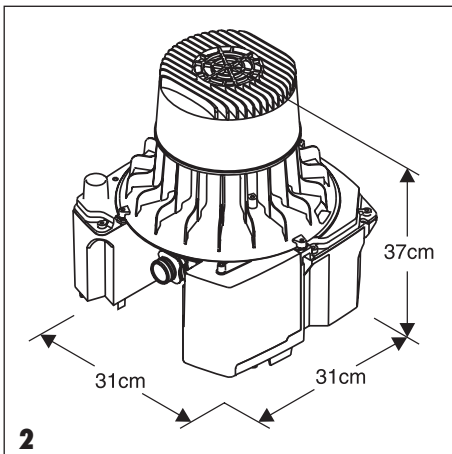
Noise reducing cover	7128-991-00
Pressure compensation hose	7130-991-00
Wall mounting	7130-190-00
Floor installation console	7130-191-00
Bacterial exhaust filter	0732-001-00
Fixing plate for exhaust filter	0732-000-06
Noise reducer for exhaust	0730-991-00
Rinsing unit	7100-250-50

4. Technical Data

4.1 Suction Unit VS 300 S

Model 7122		-01	-02	-05
Voltage	V	230	230	100
Supply frequency	Hz	50	60	50 - 60
Phases		1	1	1
Rated current	A	2.9	3.7	8,0 - 10
Residual current	A	8.2	9.1	21 - 20,5
Motor protection switch	A	Motor winding overheat protector 160°C (±5°C)		
Power consumption	W	580	800	650 - 850
R.P.M.	min ⁻¹	2750	3100	2810 - 3220
Max. flow volume	l/min	4		
Air flow	l/min	see Fig. 3		
Max. No. treatment stations		1		
Weight	kg	12,5		
Dimensions		see Fig. 2		
Noise level*	dB(A), ±1.5	63 - 64		
Duty cycle	%	100		
Protection type		IP 24		
Protection class		I		
Vacuum connection		DürrConnect Spezial (hose ø 30 mm (inner))		
Exhaust air connection		DürrConnect Spezial (Aluminium hose ø 30 mm (inner))		
Waste water connection		DürrConnect System (hose 20 mm (inner))		
Auxiliary air vent setting	mbar	-		
Protective low voltage	V	24 ~		
Power output	VA	4		

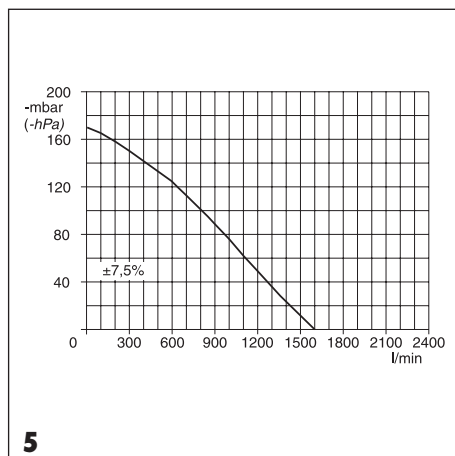
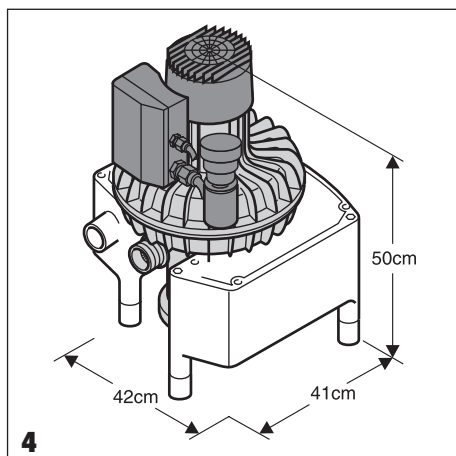
* According to EN ISO 1680 air noise emissions; measured in soundproof room.
Higher values will be achieved in reverberant rooms.



4.2 Suction Unit VS 600

Model 7128		-01		-02		-05
Voltage	V	230		400	230	200
Supply frequency	Hz	50		50 - 60	50 - 60	50 - 60
Phases		1		3	3	3
Rated current	A	5,0		1.8 - 2.3	3.1 - 4.1	3.2 - 4.0
Residual current	A	22		8	9	31
Motor protection switch	A	-		2.5 - 4.0	3.5 - 4.5	4
Power consumption	W	1100		1000	1420	1420
R.P.M.	min ⁻¹	2850		2850/3300		
Max. flow volume	l/min			10		
Air flow	l/min			see Fig. 5		
Max. No. treatment stations				3		
Weight	kg			25		
Dimensions				see Fig. 4		
Noise level*	dB(A), ±1.5			63		
Duty cycle	%ED			100		
Protection type				IP 44		
Protection class				I		
Vacuum connection				ø 40 mm (outer) (DN 40)		
Exhaust air connection				ø 50 mm (outer)		
Waste water connection				DürrConnect System		
Auxiliary air vent setting	mbar			170 (170 hPa)		

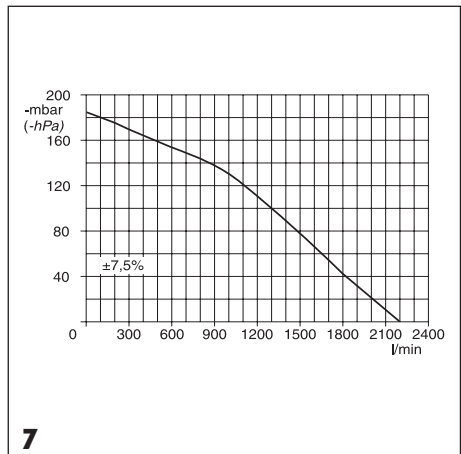
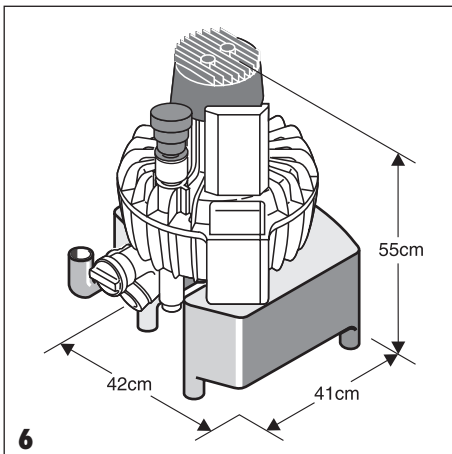
* According to EN ISO 1680 air noise emissions; measured in soundproof room.
Higher values will be achieved in reverberant rooms.



4.3 Suction Unit VS 900

Model 7133		-01	-02	-03	-05	
Voltage	V	230	400/230	230	200	230
Supply frequency	Hz	50	50	50	50-60	60
Phases		1	3	3	3	3
Rated current	A	6.5	2.5/4.0	4.0	5.7-6.7	6.7
Residual current	A	29	14/24	24	33	34
Motor protection switch	A	7.5	2.7/4.6	4.5	6,0-7,0	7,0
Power consumption	W	1480	1520	1420	1500-2080	2130
R.P.M.	min ⁻¹	2770	2820	2820	2810-3200	3310
Max. fluid flow	l/min				16	
Air flow	l/min				see Fig. 7	
Max. No. treatment stations				5		
Weight	kg				35	
Dimensions				see Fig. 6		
Noise level*	dB(A), ±1.5		64			
Duty cycle	%			100		
Protection type				IP 44		
Protection class				I		
Vacuum connection				ø 47 mm (outer)		
Exhaust air connection				ø 50 mm (outer)		
Waste water connection				DürrConnect System		
Auxiliary air vent setting	mbar				170 (17 hPa)	

* According to EN ISO 1680 air noise emissions; measured in soundproof room.
Higher values will be achieved in reverberant rooms..



4.4 Environmental conditions



Take environmental influences into account. The appliance must not be used in damp or wet locations.

Storage and transport

Temperature: -10 °C to +60 °C

Rel. humidity: max. 95%

Operation

Temperature: +10 °C to +40 °C

Rel. humidity: max. 70%

5. Functional description

VS 900 as example of principle function

In the suction unit the fluids and solid particles which are sucked up are separated from air using a **two-step** separation system This separation system consists of a cyclone separator and a separation turbine.

The suction process runs continuously. The intake mixture of fluid, solid particles and air enters the suction unit via the intake connection (D). The coarse filter (B) retains the larger solid particles. The remaining mixture proceeds to the cyclone separator (I) and is then rotated in a spiral action. In this **1st stage** the fluids and any remaining solid particles are thrown against the outer walls of the cyclone separator by the centrifugal action. Initially there is only a "coarse separation" of the fluids.

In the following **2nd stage** the separation turbine (J) sets a "fine separation" into play, in which the remaining fluids are now separated from the air which has transported them thus far.

The waste water pump (H) now transports the fluids from the centrifuge together with the fine solid particles to the waste water connection (E) and the central waste water system.

The air, now free of any fluids, is transported to the exhaust air system (C) using the vacuum provided by the action of the turbine wheel (K).

The turbinen wheel and the waste water pump are driven by the motor (L).



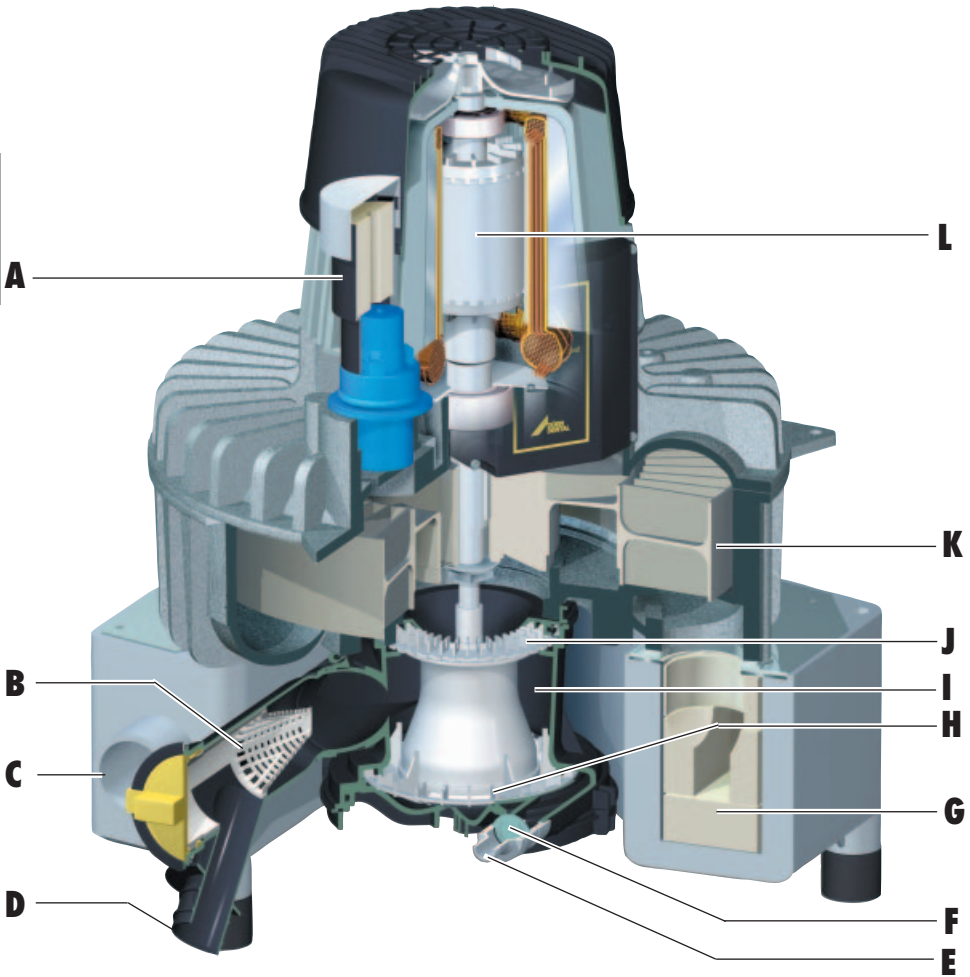
In order to separate dental amalgam it is necessary to install an amalgam separator, e.g. model 7801-07, after the waste connection (E).



Should an amalgam separator from another manufacturer be fitted, then the max. fluid flow rate of the suction unit must be taken into account.

6. Functional description

GB



- A** Auxiliary air vent
- B** Coarse filter
- C** Exhaust air connection
- D** Intake sleeve
- E** Waste water connection
- F** Diaphragm valve

- G** Exhaust air noise reducer
- H** Waste water pump
- I** Cyclone separator
- J** Separation turbine
- K** Turbine wheel
- L** Motor



Installation

7. Set-up

7.1 Set-up location

- The ambient room temperature must not fall below 10 °C and should not be allowed to rise above 40 °C. The relative humidity must not exceed 70%.
- Installation in a purpose-built room, e.g. in boiler room, must be approved before-hand (i.e. observe local regulations).
- Installation in wet rooms is not permissible.
- When installing this unit inside a cabinet or in a machinen room, sufficient air inlet and outlet openings must be provided; these must have a minimum of 120 cm² cross-section.
If insufficient ventilation is available then a fan must be fitted, this must be able to provide at least 2 m³/min ventilation flow; additionally, an inlet opening must be provided for cool air.

7.2 Alternative set-ups

- On the same floor as the surgery.
- In a ventilated cabinet (e. g. Dürr PTS 105/195).
- In Dürr-housing (VS 300 S only) as extension to the treatment unit and connected to electrical floor connection.
- On a lower floor than the surgery.

VS 300 S

When installing the VS 300 S in a cellar or similar room, then the unit should be mounted on a platform or on the wall at a height of 30 cm above the floor.

7.3 Securing the suction unit

- When setting up the suction unit together with an amalgam separator a floor console should be included.



The suction unit must be at least 20 cm above any amalgam separator which is also installed.

- For mounting on the wall we recommend using the Dürr wall-mounting unit.



Information concerning fitting can be found in the installation instructions which are supplied with the floor console or the wall-mounting unit.

7.4 Fitting a pressure compensation hose

- For suction units VS 600 and VS 900 the installation of a pressure compensation hose is necessary where an amalgam separator is present.



Due to the high rate of fluid flow through these units, a pressure compensation hose is required between the suction unit and amalgam separator and serves as intermediate storage in cases of spontaneous rush of water.



Information on installation can be found in the instructions supplied with the pressure compensation hose.

7.5 Rinsing Unit

It is strongly recommended that a rinsing unit be added to the suction unit for surgical treatment. This enables a small amount of water to be fed into the system during suction which serves to dilute the secretions and allow them to be transported through the system more easily.

This rinsing unit should either be integrated into the treatment station itself or can be set up in the vicinity of the suction unit.

7.6 Plumbing materials

Only the following pipe materials may be used:

Vacuum-sealed HT-drain pipe made from polypropylene (PP), chlorinated polyvinylchloride (PVC-C), unplasticized polyvinylchloride (PVC-U) or polyethylene (PEh).



Do not use:

Acrylonitrile-Butadiene-Styrene (ABS) or Styrene-Copolymer blends (e.g. SAN+PVC).

GB

7.7 Hose materials

For waste water and suction connections use only PVC flexible spiral hoses with integrated spiral or hoses of equivalent type.



Do not use:

Hoses which are not resistant to dental disinfectants and other chemicals, or rubber or PVC hoses with insufficient flexibility.

7.8 Laying hoses and pipes

Waste water connections should be completed in accordance with the local regulations.

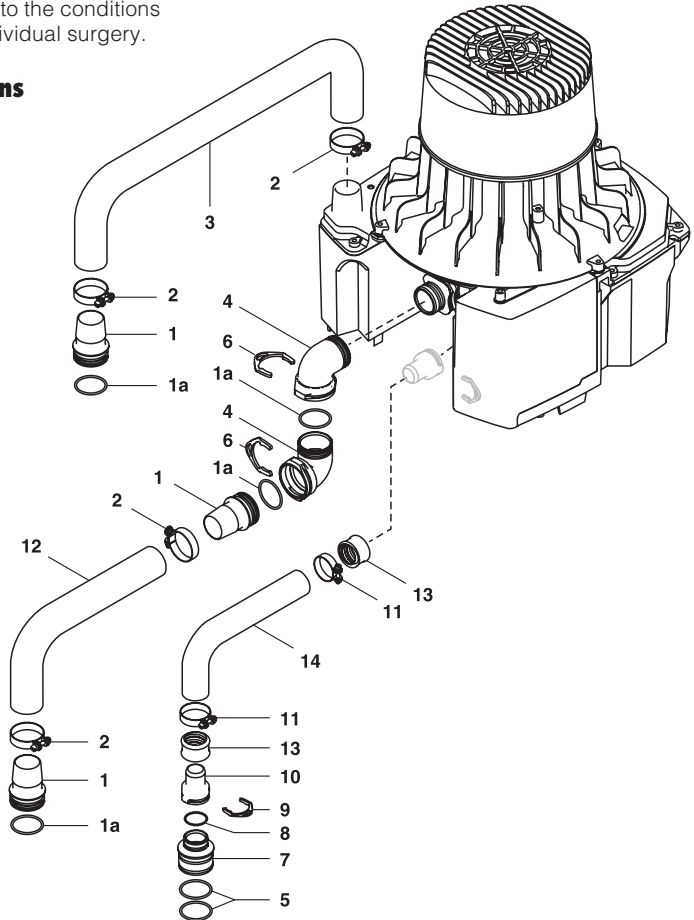


The connection between supply and the suction unit itself should be kept as short as possible, be straight without bends and carried out with the flexible hose supplied. This will avoid any vibration being effected in the plumbing system.

8. Connections

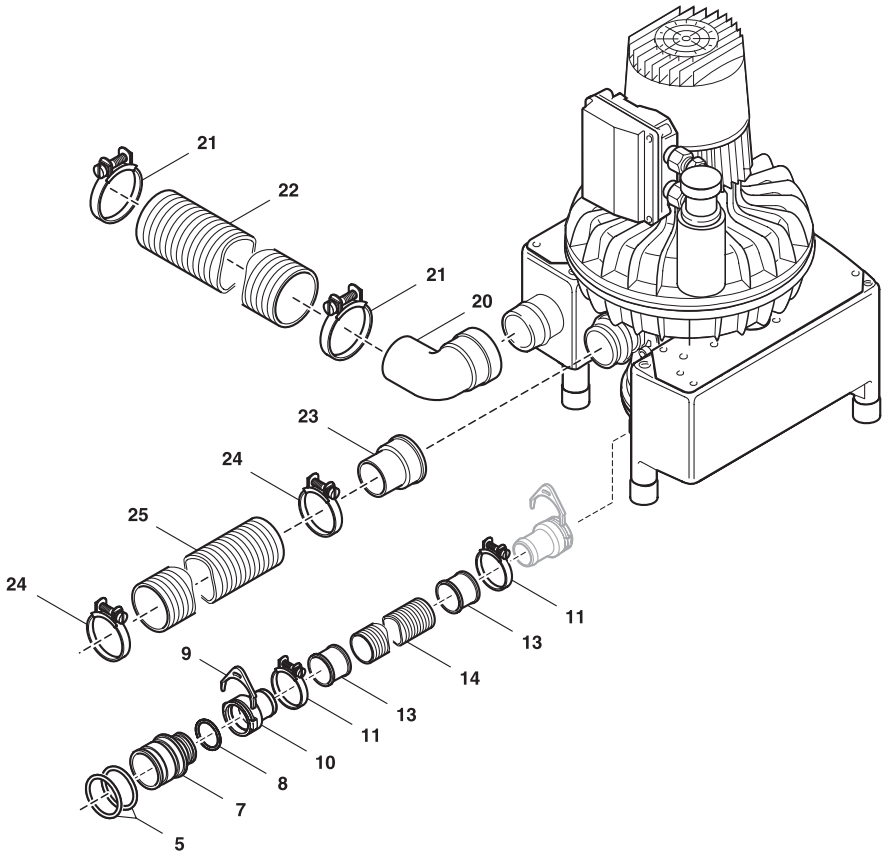
i The connections illustrated here are only meant as examples which can be varied according to the conditions present in the individual surgery.

8.1 VS 300 connections



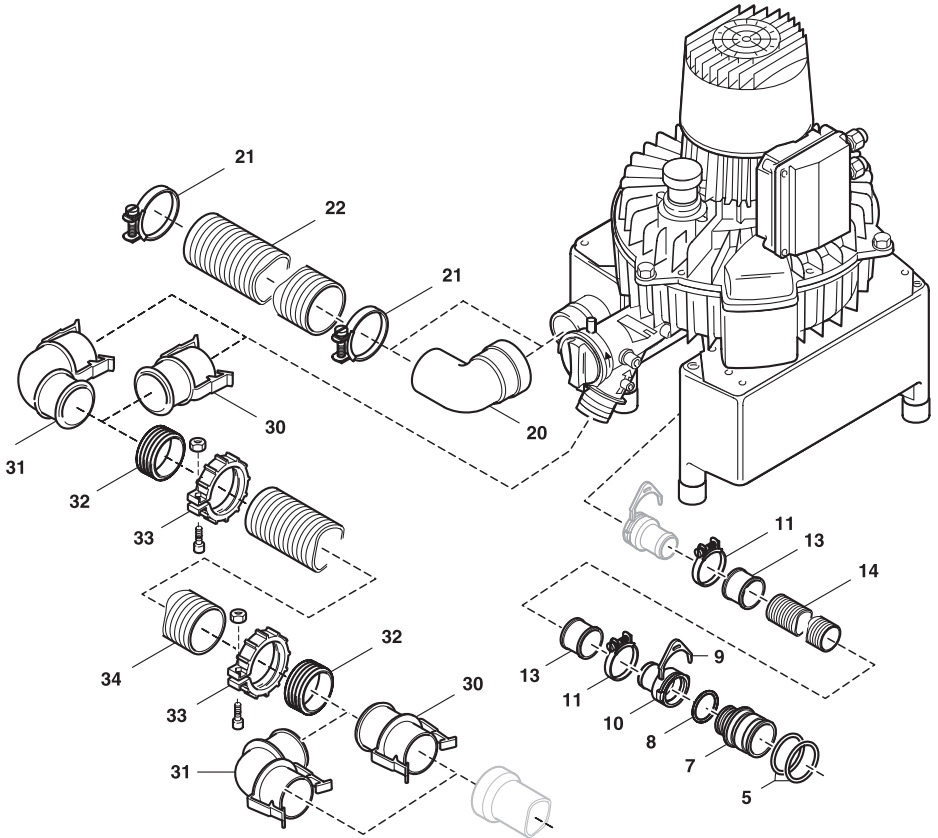
- 1 Connector 30/36
- 1a O-Ring
- 2 Hose clip $\varnothing 30\text{mm}$
- 3 Exhaust hose (Aluminium) inner $\varnothing 30\text{mm}$
- 4 Angle piece DN 30
- 5 O-Ring 30x2
- 6 Securing ring
- 7 Plug, external $\varnothing 36\text{mm}$
- 8 O-Ring 20x2.0
- 9 Securing ring
- 10 Hose socket $\varnothing 25\text{mm}$
- 11 Hose clamp $\varnothing 28\text{mm}$
- 12 Suction hose, internal $\varnothing 30\text{mm}$
- 13 Double plug
- 14 Waste water hose, internal $\varnothing 20\text{mm}$

8.2 VS 600 connections



- 5 O-Ring 30x2
- 7 Plug, external $\varnothing 36\text{mm}$
- 8 O-Ring 20x2,0
- 9 Securing ring
- 10 Hose socket $\varnothing 20\text{mm}$
- 11 Hose clamp $\varnothing 28\text{mm}$
- 13 Double plug
- 14 Waste water hose, internal $\varnothing 20\text{mm}$
- 20 Elbow DN50
- 21 Hose clamp $\varnothing 55\text{mm}$
- 22 Exhaust air hose, internal $\varnothing 50\text{mm}$
- 23 Hose plug DN40/50
- 24 Hose clamp $\varnothing 46\text{mm}$
- 25 Suction hose $\varnothing 40\text{mm}$

8.3 VS 900 connections



- 5 O-Ring 30x2
- 7 Plug, external $\varnothing 36\text{mm}$
- 8 O-Ring 20x2.0
- 9 Securing ring
- 10 Hose socket $\varnothing 20\text{mm}$
- 11 Hose clamp $\varnothing 28\text{mm}$
- 13 Double plug
- 14 Waste water hose, internal $\varnothing 20\text{mm}$
- 20 Elbow DN50
- 21 Hose clamp $\varnothing 55\text{mm}$
- 22 Exhaust air hose, internal $\varnothing 50\text{mm}$
- 30 Snap-lock connector, straight
- 31 Snap-lock connector, bent
- 32 Collar seal
- 33 Union nut
- 34 Suction hose, internal $\varnothing 55$

9. Electrical Connections

The electrical supply unit must conform to all national rules and regulations concerning power supply to surgeries and clinics.

Where electrical connection to the mains is via floor or ceiling an all-polar isolating device (all-polar switch or all-polar power safety switch (fused)) with > 3mm contact opening width must be built into the system.

Fusing: LS-Switch 16 A, Characteristics B, C and D according to EN 60898



Electrical connection to the main power supply using a shockproof plug or CCE-type plug is not permitted

9.1 Connection requirements

100–110 V / 230 V / 400 V cables (permanently fitted mains supply):

- NYM-J 3 x 1.5 mm² / 5 x 1.5 mm²

100–110 V / 230 V / 400 V cables (mains supply, flexible):

The connection between control unit and suction unit or between mains supply socket and suction unit should be of PVC-sleeved cable:

H05 VV-F 5G1.5 mm² / 5G1.5 mm²

or rubber-sleeved:

H05 RN-F 3G1.5 mm² / 5G1.5 mm²,

H05 RR-F 3G1.5 mm² / 5G1.5 mm²

A cable of cross-section 1 mm² may be used when installing the VS 300 S.

24 V control connection, VS 600 + VS 900

Protective low voltage for:

- Hose holder (manifold)
- Station selector switch
- Spittoon valve

Permanent connection: (N)YM (St)-J 4x1.5 mm² sheathed shielded cable.

Flexible connection: PVC-Data cable LiYCY 4x1.0 mm², sheathed shielded cable as used in telecommunications and EDP or light-PVC-control sheathed shielded cable.

24 V Control line for VS 300 S

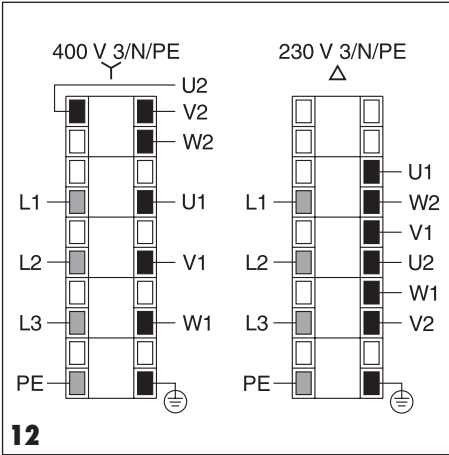
Flexible cable connection: PVC-Data cable

LiYY 3 x 0.5 mm²

Order-No. 9000-118-83

9.2 Control unit (VS 600 + VS 900)

The suction unit can be connected to a control unit which is either included in the contents or, if not, may be ordered as a special accessory. The connection plans and circuit diagrams are included in the control unit installation and operating instructions.



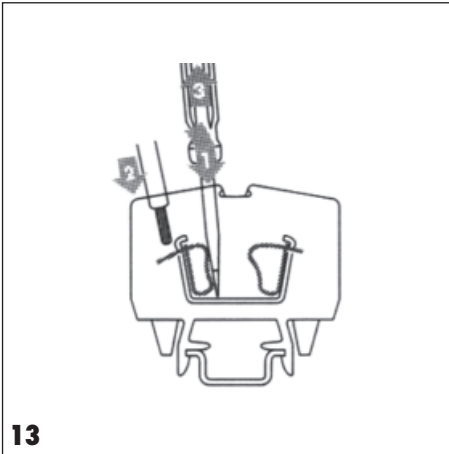
9.3 Motor terminal box connections (VS 600 + VS 900)

The power supply from the control unit are connected to the appropriate contact points in the motor terminal box. Connection plans and the relevant circuit diagrams can be found in the Installation and Operating Instructions of the Control Unit.

Suction Units VS 600 and VS 900

- 1/N/PE AC 230 V
- 3/N/PE AC 230 V, 3/N/PE AC 400 V

For details concerning the contact bar in the motor terminal box of the suction units VS 600 and VS 900, see fig. 13.



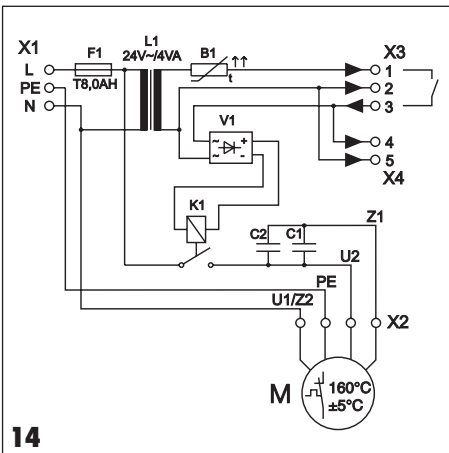
9.4 Connection of VS 300 S to Control Unit

1/N/PE AC 230 V, with Control Unit integrated into sound-reducing housing, see fig. 14.

- X1** Power supply connection
- X2** Motor connection
- X3** Connection to manifold
24VAC / max. 80mA
- X4** Control signal output 24VAC / max. 20mA

10. Commissioning

- Switch on unit or main surgery power switch.
- Check the setting of the motor protection switch (see section 4. Technical Data) and adjust if necessary.
- Check direction of motor rotation (at 3/N/PE AC).
- Check function of unit and seals of all connections.
- Carry out an electrical safety check according to local rules and regulations and record the results, e.g. in the technician's report.
- Check that the coarse filters are in position (e.g. in spittoon).



The suction unit must not be operated without installation of coares filters, as large particles such as tooth chippings or fillings can lead to damage.



Care

11. CLEANING AND DISINFECTION OF THE SUCTION UNIT

After every patient treatment

For reasons of hygiene after every single treatment a glass of cold water should be drawn up through the larger and the smaller suction hose - even if only the saliva extractor has been used.



Using the larger suction hose to draw up water causes a larger amount of air (~300 l/min) to be sucked up and this serves to considerably improve the cleaning efficiency.

Before the mid-day break and at the end of the working day

the Suction Unit should be cleaned and disinfected by drawing up a suitable cleaning and disinfectant agent, e.g. OROTOL *Ultra* or OROTOL *Plus*, as recommended by the manufacturer.



Do not use any foaming agent, e.g. household cleaning agent, instrument disinfection agent or abrasive agent.



Do not use any agent containing chlorine or any thinner, e.g. Acetone. These agents can cause damage to the materials. Guarantee claims will become null and void.

Further information is contained in the Instructions for Use "Disinfection and Cleaning of Suction Units", order number 9000-605-10/.. as well as in "Cleaning Instructions for contaminated Suction Units", order number P007-235-01.

1x week

Where the local water is very hard we recommend cleaning the unit once a week before a mid-day break with DÜRR MD 555 special cleaner for Suction Units.

12. Maintenance

Every 4 weeks (or every 3 months for VS 600 + 900) the filter located in the air intake of the suction unit should be checked and, if necessary, cleaned. Remove the suction hose from the suction unit. If required, extract the filter from the suction connections and clean thoroughly.



Wear non-porous safety gloves!

Every 2 years (VS 600 + 900) the auxiliary air vent should be checked and, if necessary, cleaned.

Every 2 years the exhaust bacterial filter (if fitted) should be checked and, if necessary, cleaned or replaced.



The separation unit in the suction system does not keep back germs. Fitting a bacterial filter into the exhaust air vent is, therefore, strongly recommended.



The bacterial filter is supplied with a memo sticker, which can be stuck into the surgery planner to remind personnel when to carry out the filter replacement.

Every 3–4 years the waste water valve must be checked by a technician and, if necessary, replaced.



Wear non-porous safety gloves!



Disposal

13. Appliance disposal



The machine may be contaminated. Please inform the waste disposal contractors in order that they can take the appropriate safety measures.



Non-contaminated plastic parts of the suction unit can be disposed of for recycling.

The control units, electronic PCB and other components should be disposed of as electric waste. The remaining metal parts (e. g. turbine housing) should be disposed of as metallic waste.

If returning the appliance, e.g. to your local Depot or to Dürr Dental, make sure that all connections are closed.



Trouble-shooting

14. Tips for Technicians

The following steps concerning trouble-shooting and correction of faults are only designed for our technicians. Repairs are only to be carried out by qualified technicians.

CB

Problem	Possible cause	Solution
1. Suction unit does not start.	<ul style="list-style-type: none">• No mains supply voltage.• Under or over voltage.• Motor protection switch set too low (see section 4. Technical Data for values).• Motor protection switch defect.• Turbine is blocked due to solid particles or sticky dirt: Motor protection switch activated.	<ul style="list-style-type: none">• Check mains supply, fuses in the control unit and/or on the PCB, and replace if necessary. Check supply voltage.• Check the supply voltage, if necessary inform electrician.• Check current. Set motor protection switch to the correct value.• Check motor protection switch; replace, if necessary.• Dismantle the suction unit and clean the turbine thoroughly.
2. Suction unit produces unusual noises.	<ul style="list-style-type: none">• Solid particles in the turbine chamber.	<ul style="list-style-type: none">• Dismantle the suction unit and clean the turbine thoroughly.
3. Water drops from air vent connection.	<ul style="list-style-type: none">• Diaphragm valve blocked.	<ul style="list-style-type: none">• Check the diaphragm valve on the waste water section and clean or replace as necessary.
4. Suction unit power too low.	<ul style="list-style-type: none">• Mechanical movements of turbine hindered by dirt.• Coarse filter blocked.• Leaks in the suction unit plumbing.	<ul style="list-style-type: none">• Dismantle the suction unit and clean the turbine thoroughly.• Coarse filter at entrance should be cleaned.• Check all pipes, hoses and connections for leaks and replace if necessary.