VC 45



Installation and operating instructions





Contents

1	Intro	duction
	1.1	Notes on the operating instruc-
		tions2
	1.2	Explanation of pictograms and
		symbols
	1.3	Intended Purpose 6
	1.4	Function
	1.5	Intended users
	1.6	Scope of delivery
	1.7	Accessories
	1.8	Optional items
	1.9	Consumables
	1.10	Transport and storage8
2		s for your safety
	2.1	General safety notes 9
	2.2	Hazards for users, patients and
	0.0	third parties
	2.3	Avoiding equipment damage11
3		llation and commissioning 12
	3.1	Overview of the unit12
4		lling13
	4.1	Initial commissioning
	4.2	Preparation of the device 13
	4.3	Layout of the secretion collector 13
	4.4	Using the splash guard 13
	4.5	Fitting and removing the secretion
	4.0	collector lid
	4.6	Insertion/removal of the bacteria filter/over-suctioning inhibitor 14
	4.7	Fitting, closing and opening the
	4.7	secretion collector handle 14
	4.8	Inserting and removing the secre-
		tion collector14
	4.9	Hose holder for the secretion coll-
		ector14
	4.10	Inserting the hose adapter 15
	4.11	Connecting the suction hose 15
	4.12	ON/OFF switch
	4.13	Adjusting the vacuum 15
	4.14	Suction
	4.15	Checking the bacteria filter/over-
		suctioning inhibitor

5	Optio	ns 1	17
	5.1	Fastening the unit	18
	5.2	Moving the cart	18
	5.3	Use of single-use suction systems (Serres®)	19
6	Repro	ocessing	20
	6.1	Safety instructions for reprocessing	20
	6.2	Preparation of surfaces 2	
	6.3	Reprocessing of accessory parts 2	22
7	Maint	tenance and service	24
	7.1	Regular inspections	24
	7.2	Function check	24
	7.3	Replacing fuses	24
8	Troub	eleshooting	25
9	Dispo	osal	26
10	Techr	nical data 2	27
11	Notes	s about EMC	28

1 Introduction

1.1 Notes on the operating instructions



These operating instructions contain important information about how to operate your product safely, appropriately and effectively.

The instructions are used to train operating personnel and will also serve as a reference guide. Reprinting, in whole or in part, is only permitted with the written approval of the manufacturer.

The operating instructions must always be kept available close to the product.



Care, periodic checks, regular cleaning and proper application are essential, as they ensure operational safety and reliability of the product as well as its availability.

Maintenance, repairs and periodic checks must only be performed by persons who have appropriate knowledge and expertise and who are familiar with the product. Anyone who carries out the actions mentioned above must have the necessary test equipment and must have genuine replacement parts.



Read the section "2 Notes for your safety" before starting to use the product for the first time. This will avoid potentially hazardous situations.

The product carries the CE label CE 0124 in accordance with EU Medical Devices Directive 93/42/EEC and satisfies the general requirements set out in Annex I of this directive.

The product complies with all applicable requirements set out in directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment ("RoHS").

1.2 Explanation of pictograms and symbols

In the operating instructions



A DANGER

This warns about a danger that will directly cause death or serious injury to you. Follow the necessary measures.



WARNING

This warns about a danger that may cause death or serious injury to you. Follow the necessary measures.



A CAUTION

This warns about a danger that may cause minor injury to you. Follow the necessary measures.

NOTICE

This warns about a danger that could cause damage to the product or to other equipment. Follow the necessary measures.



This warns about a danger that may cause death or injury to you.



Indication of potential material damage that might be caused.

Useful information for handling the unit.

Instruction to perform an action. Follow the steps in order.

Outcome of an action.



1.

Move/connect/etc. in this direction.

On the unit and type plate



Follow the operating instructions (blue)



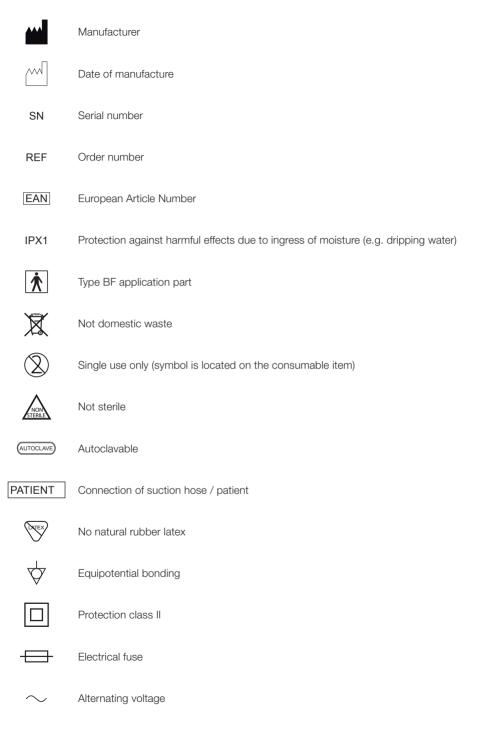
Comply with the operating instructions

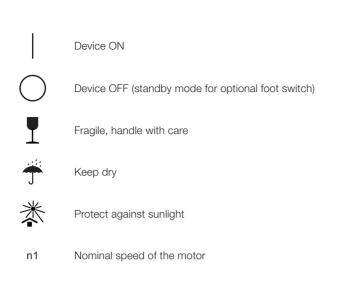


This product satisfies the pertinent requirements of the relevant EU directives.



This product satisfies the pertinent requirements of the relevant EU directives.





100% duty cycle Continuous o

n2

Continuous operation (duty cycle)

Nominal speed of the motor

Name: VC 45

Primary function: Suction of secretions, blood, serous fluids and rinsing fluids, as well

as temporary collection of these fluids.

For all applications in which suction is required, for example during Med. indication / application:

> general surgical procedures (e.g. for suction from pockets in undermined wounds, abscesses), for suction from the nose/throat region, in endoscopy for suction of secretions or rinsing fluids, and in neuro-

suraerv.

Specification of the primary

function:

Draining and temporary collection of bodily fluids. A vacuum is generated with the aid of an electric suction pump. A secretion collector. which needs to be additionally attached, enables temporary collec-

tion of the drained bodily fluids.

User profile: Doctors, medical aids and medical support staff – with no restric-

tions.

Patients in all age groups – with and without restrictions. Patient group:

Application organ: Natural body openings plus openings produced by surgical interven-

tion (entire body; humans and animals).

Application duration: To be used for short periods on the patient (< 30 days).

Application environment: The product is used in the following areas: clinics, outpatient depart-

ments, doctor's practices and veterinary areas. The product must

only be used by trained and instructed persons.

Contraindication: Not suitable for:

> • Use for surgical drains or drainage in the low-vacuum range (e.g. chest drains or wound drains)

Non-medical applications

Suction of flammable, caustic or explosive substances

Suction in potentially explosive atmospheres

· Suction of flue gas in conjunction with high-frequency surgery,

electrosurgery or laser surgery

The product is: Active

Sterility: Not a sterile product

Disposable product / repro-

cessing:

The device and the accessories can be partially reused. For information about reprocessing, cleaning and disinfection refer to the opera-

ting instructions.

1.4 Function

- The VC 45 is a mains-powered surgical suction device, the central part of which is a powerful and
 maintenance-free diaphragm unit. This generates a vacuum in the suction hose and in the secretion container system, with the aid of which secretions can be suctioned and collected. The final
 vacuum and therefore the desired suction power can be accurately controlled via a vacuum regulator with a vacuum gauge.
- Different sizes of secretion collector are available for collecting the secretions. The reusable secretion collectors are attached to the VC 45. The user can connect the suction hose directly. A hydrophobic bacteria filter contained in the lid of the collector prevents ingress of bacteria and fluids into the inner of the unit. This prevents over-suction in the device. The twisted inlet contained in the hose attachment prevents foam formation in the secretion collector and thus ensures an extended service life for the filter.
- For mobile use a cart is available with extensive accessories.

1.5 Intended users

Must only be used by instructed expert personnel in supervised and medical applications.

1.6 Scope of delivery

Description	REF
VC 45	0670-01/001
Surgical suction unit, 230 V, 50-60 >Hz	
Installation and operating instructions	
VC 45	0670-02/001
Surgical suction unit, 230 V, 50-60 >Hz	
Foot switch	0670-987-10E
Installation and operating instructions	

1.7 Accessories

Description	REF
Collector 1.5 I	0670-980-00
Collector 3 I	0670-980-04
Lid for secretion collector	0670-980-01
Carry handle	0670-980-03
Splash guard	0670-980-02
Hose adapter	0670-981-03
Standard rail mount adapter	0670-987-01
Standard rail attachment kit	0670-987-03
Fastening clip	0670-987-02
Silicon hose D 12/(internal) 6 L=55cm	0670-981-10
Vacuum hose with T-piece	0670-980-07E
Container for disposable bag 2 l	0670-980-05

1.8 Optional items

Description	REF
VC 45 cart	0670-150-00

1.9 Consumables

Description	REF
Bacteria filter, 10 pcs.	0670-982-00
Disposable hose (50 pcs.)	0670-981-05E
Disposable hose with integrated cannula 5.8 mm (50 pcs.)	0670-981-04E
Disposable bag 2 I with gelling agent (22 pcs.)	0670-980-09E
Vacuum hose with T-piece	0670-980-07E
Connection hose with angle piece (25 pcs.)	0670-980-08E
Surgical cannula for single use, ø 2.5 mm (20 pcs.)	0700-007-50
Surgical cannula for single use, ø 2.5 mm (100 pcs.)	0700-007-51
FD 366 sensitive surface disinfection	CDF366C6150
ID 213 instrument disinfection	CDI213C2040

1.10 Transport and storage

The product must only be transported in a shipping carton that is padded and offers sufficient protection.

If you discover any transport damage:

> Document and report any transport damage.

Ambient conditions for transport and storage:

Temperature: -30°C...+50°C
Relative humidity: 5...90% with no condensation
Air pressure: 700...1060 hPa

Storage:

After transportation at sub-zero temperatures, the unit must be left to acclimatise at room temperature for up to six hours before switching it on and taking it into use for the first time. The unit must not be switched on until it has acclimatised, as otherwise it could be damaged.

2 Notes for your safety

2.1 General safety notes

Only a fully functional product will meet your expectations in terms of the safety of users, patients and third parties. For this reason it is important that you read the following information about your product: Read and follow the safety instructions carefully before using a product.

2.2 Hazards for users, patients and third parties



Danger of suffocation for children due to accessory parts

Children can strangle themselves or choke on small parts.

- > Keep children away from hoses and connecting cables.
- > Keep children away from small parts that can be swallowed. Sealing rings are an example of small parts that can swallowed.



Risk of explosion and fire

Possibility of burns and injuries.

- Do not use the unit to suck up explosive, flammable or caustic gases or fluids. Read the "Intended purpose" in section "Intended Purpose" on page 6.
- Never operate the product in areas with a potentially explosive or oxygen-enriched atmosphere.
- > Only use original accessories and replacement parts. This applies in particular to the power supply cable.



Always use the device properly and in accordance with its intended purpose.

Risk of serious patient injury.

- The product must only be used by medically trained personnel who have been instructed in medical suctioning.
- > The product must only be used by instructed expert personnel in supervised applications.
- Choose the correct vacuum to suit the patient and application.
- Observe the applicable guidelines.
- Always set up the unit so that the operator has a clear view of the operating panel and can comfortably reach it. The unit must be set up on a sturdy, level surface.



Keep the unit functional and ready for use.

Risk of patient suffocation.

- Defore connecting the device, always check that the values stated on the device for the supply voltage and mains frequency match those of the mains power supply.
- > Position the unit in an easily accessible location and keep access to it free.
- Make sure that the power supply cable is in perfect working order. Always replace any defective accessories immediately.
- > Perform a functional check every time before using the product.

The manufacturer recommends always keeping an alternative suction device ready as a backup. This will allow you to keep suctioning if the device fails.

WARNING

Risk of infection due to pathogens on the product.

Risk of transmission of deadly diseases.

- Always wear disposable gloves if there is any risk of coming into contact with secretion.
- Always wear disposable gloves when using the product.
- > Never re-use equipment marked with ②. Components marked in this way are designed for single use only.
- > Only use sterile-packaged items if the packaging is undamaged.
- > Never operate the unit without a bacteria filter.
- Always use a suction catheter, a suction adapter or medical suction accessories. The suction hose must never touch the suction site.
- > Clean and disinfect the product after every use.
- > Follow the operating instructions for cleaning and disinfection.
- > The product must no longer be operated if over-suctioning has occurred.

WARNING

Trip hazard due to cables.

Risk of injuries and breakages.

Make sure that the power supply cable is routed safely.

M WARNING

Risk of electric shock due to improper power supply connection, incorrect handling of the product or damaged product components.

Risk of burns and potentially fatal cardiac arrhythmia.

- > Do not operate the unit if it has fallen or been dropped to the floor. In this case, clean and disinfect the unit and send it in for repairs.
- Check the unit and power supply cable for damage every time prior to use. Do not operate the unit if you notice any damage. In this case, clean and disinfect the unit and send it in for repairs.
- Disconnect the unit from the power supply network before cleaning or disinfecting it.
- The only way to disconnect the unit from the power supply is to unplug the mains plug.
- Position the unit in such a way that you can easily disconnect it from the supply network at all times.
- > Only connect the unit to a supply system with a PE conductor.
- Never touch the power supply cable with wet hands.
- > Only use the power supply cable in a dry environment. The surroundings must not be conductive.
- Make sure that no fluids are allowed to get into the device. The unit must no longer be used if fluid has got into it. In this case, clean and disinfect the unit and send it in for repairs.
- > Only use the power supply cable in accordance with the operating instructions.
- > Only use appropriate power supply connections, plugs and extension cables.
- Never touch the interfaces of the unit and the patient at the same time.
- Only use original accessories and replacement parts. This applies in particular to the power supply cable.
- > Read the information about periodic checks in section "7.1 Regular inspections" on page 24.
- Installation, new adjustments, modifications, upgrades and repairs must only be carried out by authorised persons.
- > Never modify the unit without the permission of the manufacturer.

2.3 Avoiding equipment damage

NOTICE	
--------	--

Storage and operation in an unsuitable environment.

Risk of damage to the product.

- Make sure that the required ambient conditions for transport, storage and operation are met.
- After transportation at cold temperatures, the unit must be left to acclimatise at room temperature for up to six hours before switching it on and taking it into use for the first time. The unit must not be switched on until it has acclimatised, as otherwise the diaphragm of the unit could be damaged.

3 Installation and commissioning

Always place the unit on a level, secure surface.

3.1 Overview of the unit

Front view



- Secretion collector lid
- 2 Secretion collector
- 3 Vacuum gauge
- 4 ON/OFF switch
- 5 Vacuum regulator

Vacuum connection



A direct vacuum connection between the pump and the secretion collector is established when the secretion collector is attached in place.

Connection area on the base of the unit



Connecting the power supply cable:

- Always used a power supply cable with an angled cold device plug.
- Always check that the supply voltage and mains frequency stated on the device match the values of the mains power supply.

Connecting the foot switch (optional):

- Slide the knurled nut onto the hose of the foot switch.
- Push the hose of the foot switch onto the connection nipple.
- Tighten the knurled nut,

4 Handling

4.1 Initial commissioning

- Refer to the safety instructions before taking the unit into operation for the first time.
- After transportation at cold temperatures, the unit must be left to acclimatise at room temperature for up to six hours before switching it on and taking it into use for the first time – otherwise it must not be operated.

4.2 Preparation of the device

- Check the supply voltage and frequency values on the unit and make sure they match the corresponding values of the supply network. Then connect the unit to the mains power supply.
- » The device is now ready for operation.

4.3 Layout of the secretion collector



- Secretion collector handle
- 2 Bacteria filter
- 3 Hose adapter
- 4 Collector lid
- **5** Splash guard
- 6 Secretion collector

4.4 Using the splash guard



- Fit the splash guard on the connection piece on the secretion collector lid.
- The splash guard protects the bacteria filter against premature coating with fluids and/or foam formation.

4.5 Fitting and removing the secretion collector lid

- Place the secretion collector lid horizontally on the secretion collector, which must be standing on a secure support (the lid cannot be twisted).
- > Lightly press the secretion collector lid with both hands as far as it will go onto the secretion collector.
- > To open the lid of the collector, you can hold it by the reinforcement bars of the attachment device and then reach into the opening for the filter mounting and pull the lid of the collector off to the top.

4.6 Insertion/removal of the bacteria filter/over-suctioning inhibitor



The bacteria filter/over-suctioning inhibitor is designed for single use only.

- Before every use, check that the bacteria filter/oversuctioning inhibitor is clean and dry. Replace the bacteria filter with a new one if it is discoloured, soiled or if over-suctioning has occurred.
 - Fit the bacteria filter on the secretion collector handle.

Fitting, closing and opening the secretion collector handle 4.7



- To fit the secretion collector handle, insert it in the slots on the lid of the collector (with the latching hooks open).
- To close the secretion collector handle, hook the latching hooks under the edge of the collector. Then press the clips towards the secretion collector until they snap in place.
- To open the handle, unclip the clips towards the outside and unhook the hooks from under the edge of the collector.

4.8 Inserting and removing the secretion collector



- To attach the secretion collector, allow it to slide vertically downwards into the attachment device.
- To remove it, pull the secretion collector upwards.

4.9 Hose holder for the secretion collector



> When using a hose holder for the secretion collector, attach it between the lid of the collector and the hose adapter.

4.10 Inserting the hose adapter



- Push the hose adapter (Ø 6 or 10 mm) into the opening marked "Patient" on the lid of the collector.
- > Press it down with a slight twisting motion.
- The adapter can be removed again with a slight twisting motion.

4.11 Connecting the suction hose



Connect the suction hose using the hose adapter that has already been inserted.

4.12 ON/OFF switch



- > Press the "I" symbol to switch the device on.
- > Press the "O" symbol to switch the device off.
- In the "O" setting the unit is ready for operation via the optional foot switch (refer to the options).

4.13 Adjusting the vacuum



- Close the suction hose again and use the vacuum regulator to set up the required vacuum using the marked arrow as a guide.
- ☼ Do not use excess force!
 - If the required vacuum is not generated, check the system for leaks.

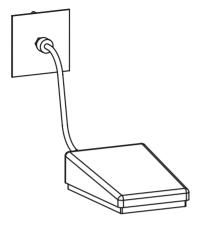
4.14 Suction

- Make sure that the following parts are always reprocessed before the unit is used on a different patient:
 - Suction hose including suction adapter or suction set
 - Secretion collector including lid and double hose connector
 - · Connection hose.
- > Before every use, check that the bacteria filter has been correctly inserted again after cleaning or disinfection.
- > Replace the bacteria filter with a new one if it is discoloured, soiled or if over-suctioning has occurred.
- > Switch on the unit.
- > Connect the suction hose and set the vacuum to the required level.
- > Connect the suction catheter, the suction adapter or the suction set.
- During suctioning, check the fluid level in the secretion collector. The bacteria filter prevents fluid from being sucked into the pump. Nonetheless, you should change or empty the collector when it gets to around 2/3 full (incl. the foam head).
- If fluid has entered the pump despite bacteria filter, the unit must not be taken into use again until it has been checked by an authorised service partner.

4.15 Checking the bacteria filter/over-suctioning inhibitor

- The bacteria filter/over-suctioning inhibitor is designed for single use only.
- Before every use, check that the bacteria filter/over-suctioning inhibitor is clean and dry. In the event of discolouration, soiling or over-suctioning, the bacteria filter must be replaced by a new one.
- Replace the bacteria filter every time the collector system is cleaned and/or disinfected.
- Never operate the unit without the bacteria filter/over-suctioning inhibitor.

5 Options



Foot switch, REF

Pneumatic, explosion-proof switch for turning the unit on and off.

- > Connect the foot switch.
- Switch the device off by setting the main power switch to "O"
- The unit is switched on when the foot switch is depressed.
- > Pressing the foot switch again then switches the unit back off.

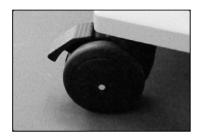


Cart

- A cart is available for mobile operation.
- During operation, always make sure that the cart is positioned on a level and sufficiently stable floor surface.



- Safe operation of the mobile suction unit is only possible with the corresponding specially designed cart.
- The suction unit is placed on the cart so that the feet of the unit engage in the holes in the unit carrier. A knurled screw can be use to attach the unit from underneath to the unit carrier.
- For safe operation and safe movements it is essential that the unit is properly fastened to the cart.



If necessary, lock the lockable castors.

5.2 Moving the cart



- Always push the unit with the open fork of the base frame facing in the direction of movement.
- Always have one or both hands on the handle area of the unit when pushing it.
- Make sure that the hoses and cables are securely attached.
- Never leave the cart standing on a sloping floor.

The maximum load the cart can carry is 15 kg – placing more weight on it will risk damaging the unit.

5.3 Use of single-use suction systems (Serres®)

- Follow the instructions in the operating instructions provided by the manufacturer of the corresponding container system.
- Never use the unit without a bacteria filter.



Disposable systems for a tabletop unit:

As an option, the suction unit as a tabletop unit can also be used with disposable suction systems, which can be attached to a standard rail.



Disposable systems when using a cart:

If the suction unit is installed on a cart then it is also possible to use disposable systems. Here again they can be attached to the standard rail.

To do this you will require the standard rail set for mounting on the cart and the adapter with standard rail on the attachment device of the suction unit.

6 Reprocessing

6.1 Safety instructions for reprocessing

General safety notes

We recommend always documenting all maintenance and replacement processes in writing.

It is the responsibility of the user to check whether the required cleaning and disinfection results have been achieved. Validation and routine monitoring of the process are normally required.

Reprocessing must only be performed by persons who have appropriate knowledge and expertise. Anyone who carries out the actions mentioned above must have the necessary equipment.

Hazards for users, patients and third parties



ΕN

Risk of infection due to use of unsuitable aids.

Risk of transmission of deadly diseases.

- Always wear your personal protective equipment. For all steps in which parts of the product are still contaminated, the required personal protective equipment consists of protective gloves, protective clothing, protective goggles and mouth/nose protection.
- Only use aids that are disposable or are well suited to reprocessing.



Risk of infection due to inappropriate reprocessing.

Risk of transmission of deadly diseases.

- Make sure that all areas of the accessory part are reached well.
- > When using a machine for reprocessing, always use suitable loading racks. This applies in particular to accessory parts with cavity areas and lumens that are difficult to access.
- Make sure that no air bubbles are formed in cavities or lumens when objects are immersed in reprocessing solutions.

Avoiding equipment damage

NOTICE

Equipment damage due to cleaning that permanently fixes soiling.

Risk of it being permanently impossible to remove soiling.

- > Never use aldehydes before or during cleaning.
- No not expose the unit to temperatures greater than 40 °C / 104 °F before or during cleaning.

NOTICE

Use of unsuitable aids.

Risk of damage to the product.

- > Only use lint-free, soft cloths.
- > Always use demineralized water for the final rinse.
- Observe the corresponding operating instructions for all aids and equipment used.

NOTICE

Use of unsuitable cleaning agents and disinfectants.

Risk of damage to the product.

- Do not use process chemicals containing the following ingredients for plastic parts:
 - · Chloramides or phenol derivatives
- > Do not use process chemicals containing the following ingredients for stainless steel parts:
 - · Organic or inorganic alkalis
 - Alkaline solutions

NOTICE

Incorrect machine-based cleaning and disinfection.

Corrosion due to moisture.

Take out the products as soon as the program finishes.

6.2 Preparation of surfaces

Overview

Surface	After every use	After each patient	Daily	Weekly	Every 14 days	Monthly	Pre-cleaning	Wipe cleaning	Wipe disinfection	Spray disinfection	Remarks
Housing	Х						х		х		

Dürr Dental recommends FD 366 S for surface disinfection (see 'Consumables').

Pre-cleaning

- > Disconnect the unit from the power supply.
- > Clean the surface uniformly with a suitable cloth and clean water. Pay particular attention to any areas that are difficult to access.
 - Soiling is no longer visible.

Wipe disinfection

> Refer to the information provided by the manufacturer of the process chemical.

6.3 Reprocessing of accessory parts

Overview

Accessory part / instrument / endoscope	Disposable product	Max. no. of reprocessing cycles	After every use	After each patient	Daily	Weekly	Every 14 days	Monthly	Pre-treatment	Pre-cleaning	Manual cleaning and dis- infection	Automatic cleaning and disinfection	Sterilising
- Secretion collector		60	Х						Χ	Х		Х	Х
- Collector lid ²		X	Х						Χ	Х		X	Х
 Secretion collector handle 		60											
Splash guard													
→ Hose adapter													
- Bacteria filter ¹ x ³													
Hoses													
- Suction hose		60	Х						Х	Х		Х	Х

¹ The bacteria filter must also be replaced in the event of discolouration, soiling or over-suctioning – see section "4.15 Checking the bacteria filter/over-suctioning inhibitor" on page 16.

Dürr Dental recommends the use of ID 213 for instrument disinfection (see 'Consumables').

Secretion collector system

Special features:

The accessory parts have the following areas that are difficult to access:

- Hose adapter (lumens)
- Collector lid (cavities)

Always reprocess areas that are difficult to access with great care.

Pre-treatment at the site of use - Rinse through: 60 s - Rinse off: 60 s	 Empty the secretion collector. Clean the accessory parts under cold, running water. Thoroughly rinse through the cavities and lumens of the accessory parts with running water. Coarse soiling is no longer visible.
Collection and transport	 Label any damaged accessory parts. Place the accessory parts in a secretion collector. Transport the secretion collector to the place of reprocessing.
Disassembly	See section "6 Reprocessing" on page 20"Dispose of any single-use products.

² In the event of visible damage, please replace the accessory part.

³ Replace the bacteria filter every time the secretion collector system is cleaned and/or disinfected.

Pre-cleaning - Rinse through: 1x / 30s - Rinse off: 60 s Brush: round brush Size: 7 mm, material: nylon Brush: round brush Size: 11 mm, material: nylon Brush: round brush Size: 15 mm, material: nylon Brush: square Size: 40 x 10 mm, material: nylon, special features: with angled head	 Make the following cavities accessible: Double plug nipple Collector lid Make the following lumens accessible: Double plug nipple Clean the accessory parts uniformly with a suitable brush under running water. Thoroughly rinse through the cavities and lumens of the accessory parts with running water.
Automatic cleaning and disinfection - Pre-rinsing: 1 min - Cleaning: 5 min, 50°C / 122°F - Neutralising: 2 min - Intermediate rinsing: 1 min - Disinfecting: 5 min, 93°C / 199°F - Drying: 12 min, 110°C / 230°F.	 Fasten the accessory parts on a suitable loading rack. Use a suitable program for cleaning and disinfection: Pre-rinse with cold water Clean with cleaning agent Neutralise with neutralising agent Intermediate rinsing with softened, cold water Disinfection with demineralised water Drying Washer-disinfector: in accordance with EN ISO 15883-1 Program: Miele Vario TD Cleaning agent: neodisher MediClean forte (Dr. Weigert)
Checking and care	 Use a suitable magnifier with lamp to check that the reprocessing has been successful. If the reprocessing has not been successful, reprocess the accessory parts again. Dispose of damaged accessory parts or have them repaired.
Mounting	Not required.
Function check	Not required.
Packing	Label the accessory parts.Package the accessory parts with a packaging system in accordance with DIN EN ISO 11607.
Sterilising - Fractionated pre-vacuum: 3x - Temperature: 134°C / 273°F - Time: 5 min - Drying: 10 min	 Sterilise the accessory part with a suitable method: Steam sterilisation / autoclaving Steriliser: in accordance with EN 285.
Storage	Observe the requirements for the ambient conditions, see section "10 Technical data"

7 Maintenance and service

Maintenance, repairs and periodic checks must only be performed by persons who have appropriate knowledge and expertise and who are familiar with the product. Anyone who carries out the actions mentioned above must have the necessary test equipment and must have genuine replacement parts. Recommendation: Have the work carried out by an authorised service partner. This will give you the peace of mind of knowing that repairs and tests are carried out expertly, original replacement parts are used and warranty entitlements are preserved. Repairs and regular inspections **must not** be carried out while the product is being used on a patient.

7.1 Regular inspections

- Retesting of electrical safety must be performed at least every 24 months in accordance with IEC 62353.
- Within this framework the manufacturer recommends an inspection in accordance with the manufacturer's specifications.

7.2 Function check

- Every time before using the unit, perform a visual inspection of the unit including the hoses, secretion collector and connecting lines of the unit.
- · Replace any damaged parts immediately.

7.3 Replacing fuses



- > Disconnect the power supply cable.
- Use a small screwdriver to press together the spring clips on both sides of the fuse holder and pull out the fuse holder.
- Insert new fuse and refit the holder until both clips engage again.
- Then reconnect the power supply cable.



8 Troubleshooting

The product has undergone extensive quality testing at the factory. If, despite this, a fault occurs, you may be able to remedy the issue yourself in some cases.

Fault symptom	Possible cause	Remedy	
Device will not start	Mains plug not correctly insertedNo mains supply voltageFuse defective	 Check the connection at the power outlet Check the house fuse Replace the fuse 	
Insufficient power	Leak in the suction hose li- nes or in the lid of the secre- tion collector	Check that the secretion coll- ector lid and hose lines are se- curely seated.	
No suction power	Bacteria filter is blocked (vacuum gauge indicates vacuum) Secretion or blood has been sucked in and the valve plates of the unit are sticky.	Change the bacteria filter, check the fluid level in the sec- retion collector if necessary, empty the collector if required	

Recycle the product packaging.

Secretion and blood

Secretions, blood and contaminated parts must be disposed of in accordance with the applicable laws of your country.

In Germany, the relevant guidelines are set out in the text "Anforderungen der Vollzugshilfe zur Entsorgung von Abfällen aus Einrichtungen des Gesundheitsdienstes" (Guidelines for the disposal of waste from healthcare facilities) set out by "Bund-/Länderarbeitsgemeinschaft Abfall", the German national/federal consortium for waste management.

Secretion collector system

Single-use products must not be reprocessed and reused. Single-use products must be properly disposed of after use.

The information provided below applies to reusable products.

- > Clean and disinfect reusable products that form part of the secretion collector system.
- > Recycle the disinfected reusable products.

VC 45

Do not dispose of the product as domestic waste.

The product does not contain any hazardous materials.

- > Clean and disinfect the product.
- In Germany: please contact your dental trade supplier if you have any questions about correct disposal.
- In other countries: dispose of the product properly in accordance with the laws and guidelines that apply in your country.

In Germany, according to the rulings of the Stiftung Elektro-Altgeräte Register (German register of the producers of electrical and electronic equipment), the product does not fall under the Electrical and Electronic Equipment Act (ElektroG) since there is a risk that it may be contaminated. Do not dispose of the product as electrical waste.

The housing is generally fully recyclable. However, please refer to the specific laws and guidelines that apply in your country.



26

10 Technical data

Suction power of the unit	45 l/min +3/-5 l/min	
Max. vacuum at MSL	-91 kPa (-910 mbar or 682.5 mmHg)* @ MSL	
Vacuum display	-10 bar ± 16 mbar (class 1.6) ø 63 mm	
Secondary air control	Mechanical regulating valve	
Secretion collector	1.5 / 3 secretion collectors1.5 / 2 single-use suction systems	
Hose connections	ø 6 mm	
Rated voltage	230 V~ ± 10%, 50/60 Hz	
Nominal current	Max. 0.75 A at 230 V~	
Duration of operation	> 12 h continuous operation without interruption, within a space of 24 h	
Fuse	T 800 mA/H for 230 V~	
Heat output	Max. 173 J/s	
Noise level	≤ 48 dB (A) @ 1 m (ISO 7779) at max. vacuum	
Ambient conditions Transport/storage	-30+50°C 590% humidity with no condensation at an air pressure of 7001060 hPa	
Operation	+5+35°C 2080% humidity with no condensation at an air pressure of 7001060 hPa	
Dimensions HxWxD	 H 330 x B 240 x T 360 mm (with secretion collector) H 1010 x B 360 x T 440 mm (with cart) 	
Weight	Approx. 6.7 kg (with secretion collector)	
Regular inspections	Retesting of electrical safety every 24 months. Recommended: Inspection in accordance with the manufacturer's specifications.	
Protection class (EN 60601-1)	II	
Applied part	Type BF	
Type of protection	IPX 1	
Classification in accordance with Annex IX of EU Directive 93/42/EEC	IIa (in accordance with EU Directive 93/42/EEC)	
CE labelling	CE 0124	
UMDNS code	10 - 217	
GMDN code	36777	

Notes about EMC

Electrical medical appliances are subject to special precautionary measures with regard to electromagnetic compatibility (EMC) and must be installed in accordance with the EMC guidelines set out helow.

Guidelines and manufacturer's declaration - ambient conditions

The VC 45 is suitable for operation in the following environments:

- In professional healthcare facilities, e.g. doctor's practices, clinics, first aid facilities and operating
 - The environment around HF surgical equipment and outside HF-shielded spaces in a magnetic resonance imaging system are unsuitable.
- · Special environments such as factory or military plants and medical areas near to HF surgical equipment or shortwave therapy devices, or inside HF-shielded spaces in a magnetic resonance imaging system.

The customer or user of the VC 45 must ensure that the unit is operated in a prescribed environment.

Guidelines and manufacturer's declaration - key performance characteristics

Please refer to the 'Technical data' in these instructions for more information. The key performance characteristics can be used in full even in the presence of electromagnetic disturbance variables.

Guidelines and manufacturer's declaration - electrical components

The VC 45 has the following electrical components:

Туре	Max. cable length
Power supply cable	5 m

Guidelines and manufacturer's declaration - warnings



WARNING

The use of different electrical components and accessories to those specified or supplied by the manufacturer can result in increased emission of electromagnetic disturbances or reduced immunity to electromagnetic interference and can cause the unit to malfunction or operate incorrectly.



WARNING

Portable HF communication devices (e.g. radio devices, antenna cables) should not be used at a distance of less than 30 cm* to the parts or lines of the VC 45 labelled by the manufacturer. Failure to do so may result in reduced performance characteristics of the device.

*The distance may be reduced if the immunity to interference test levels are higher.



WARNING

Avoid placing the unit on or next to another device. This could result in a malfunction or incorrect operation. If it is unavoidable to do so, regularly monitor the device to make sure it is working perfectly. If possibly, please switch off unused adjacent devices.

Distributor:

DÜRR DENTAL SE Höpfigheimer Str. 17 74321 Bietigheim-Bissingen Germany

Tel.: +49 7142 705-0 www.duerrdental.com info@duerrdental.com



Hersteller/Manufacturer:

ATMOS MedizinTechnik GmbH & Co. KG Ludwig-Kegel-Str. 16 79853 Lenzkirch Germany

Tel: +49 7653 689 - 0 www.atmosmed.de atmos@atmosmed.de

