Power Tower View

EN Installation and operating instructions

CE 0297

DÜRR DENTAL

A949100052L02 2206V006

The current version of the installation and operating instructions is available in the Download Center:

http://qr.duerrdental.com/A949100052

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Important information

1 About this document

These installation and operating instructions represent part of the unit.

If the instructions and information in these installation and operating instructions are not followed, Dürr Dental will not be able to offer any warranty or assume any liability for the safe operation and the safe functioning of the unit.

The German version of the installation and operating instructions is the original manual. All other languages are translation of the original manual. These operating instructions are valid for Power Tower View, order number: A949444000, A949443000, A949454000, A949453000, A949242000, A949252000 and A949243000.

1.1 Warnings and symbols

Warnings

The warnings in this document are intended to draw your attention to possible injury to persons or damage to machinery.
The following warning symbols are used:

General warning symbol

Warning – dangerous high voltage

Warning – hot surfaces

Warning - automatic start-up of the unit

The warnings are structured as follows:

SIGNAL WORD

Description of the type and source of danger

Here you will find the possible consequences of ignoring the warning

› Follow these measures to avoid the danger.

The signal word differentiates between four levels of danger:

- **DANGER**
  Immediate danger of severe injury or death
- **WARNING**
  Possible danger of severe injury or death
- **CAUTION**
  Risk of minor injuries
- **NOTICE**
  Risk of extensive material/property damage

Other symbols

These symbols are used in the document and on or in the unit:

Note, e.g. specific instructions regarding efficient and cost-effective use of the unit.

Observe the operating instructions.

CE xxxx CE labelling with the number of the notified body

MD Medical device

Manufacturer

SN Serial number

REF Order number

Air

Dispose of correctly in accordance with EU Directive 2012/19/EU (WEEE).

Dispose of the packaging material in an environmentally responsible manner.

Wear protective gloves.

3N~ Three phase alternating current with neutral conductor

1N~ Single phase alternating current with neutral conductor

HIBC Health Industry Bar Code (HIBC)

Disconnect all power from the unit.

Monitor ambient conditions

1.2 Copyright information

2 Safety

Dürr Dental has designed and constructed this unit so that when used properly and for the intended purpose it does not pose any danger to people or property.
Despite this, the following residual risks can remain:

- Personal injury due to incorrect use/misuse
- Personal injury due to mechanical effects
- Personal injury due to electric shock
- Personal injury due to radiation
- Personal injury due to fire
- Personal injury due to thermal effects on skin
- Personal injury due to lack of hygiene, e.g. infection

2.1 Intended purpose

Unit

Noise-insulated central supply of dental compressed air as well as negative pressure for dental suction. Optionally, water and amalgam can be separated.

Compressor

The compressor is designed to supply compressed air for dental applications.

2.2 Intended use

Unit

Central installation of the practice supply units in any room of a dental practice. Due to the noise insulation, the room can also be used for other purposes.

Compressor

The air supplied by the compressor is suitable for driving dental tools.
The compressed air generated by the compressor is delivered to the pipeline system of the surgery. The entire compressed air system must be designed in such a way that the quality of the compressed air generated by the compressor is not impaired.
With this prerequisite, the air provided by the compressor is also suitable for blow-drying tooth preparations.

2.3 Improper use

Unit

Any other usage or usage beyond this scope is deemed to be improper.

Compressor

Any use of this appliance / these appliances above and beyond that described in the Installation and Operating Instructions is deemed to be incorrect usage. The manufacturer cannot be held liable for any damage resulting from incorrect usage. The operator will be held liable and bears all risks.

WARNING

Risk of explosion due to ignition of combustible materials

› Do not operate the unit in any rooms in which inflammable mixtures may be present, e.g. in operating theatres.

› The unit is not suitable for providing an air supply to respirators.

› This unit is not suitable for drawing up fluids or for compressing aggressive gases or potentially explosive gases.

2.4 General safety information

› Always comply with the specifications of all guidelines, laws, and other rules and regulations applicable at the site of operation for the operation of this unit.

› Check the function and condition of the unit prior to every use.

› Do not convert or modify the unit.

› Comply with the specifications of the Installation and Operating Instructions.

› Comply with the specifications of the Installation and Operating Instructions for the devices installed.

› The Installation and Operating Instructions must be accessible to all operators of the unit at all times.

2.5 Specialist personnel

Operation

Unit operating personnel must ensure safe and correct handling based on their training and knowledge.

› Instruct or have every user instructed in handling the unit.

The following groups are not permitted to operate or use a commercially operated unit:

– People without the necessary experience and knowledge

– People with reduced physical, sensory or mental capabilities

– Children

Installation and repairs

› Installation, readjustments, alterations, upgrades and repairs must be carried out by Dürr Dental or by qualified personnel specifically approved and authorized by Dürr Dental.

2.6 Electrical safety

› Comply with all the relevant electrical safety regulations when working on the unit.

› Never touch the patient and unshielded plug connections on the device at the same time.

› Replace any damaged cables or plugs immediately.

2.7 Only use original parts

› Only use accessories and optional items that have been recommended or specifically approved by Dürr Dental.

› Only use only original wear parts and replacement parts.

2.8 Notification requirement of serious incidents

The operator/patient is required to report any serious incident that occurs in connection with the device to the manufacturer and to the competent authority of the Member State in which the operator and/or patient is established/resident.

2.9 Transport

The original packaging provides optimum protection for the unit during transport.
If required, original packaging for the unit can be ordered from Dürr Dental.

Dürr Dental will not accept any responsibility or liability for damage occurring during transport due to the use of incorrect packaging, even where the unit is still under guarantee.

› Only transport the unit in its original packaging.

› Keep the packing materials out of the reach of children.

2.10 Disposal

The unit must be disposed of properly. Within the European Union, the unit must be disposed of in accordance with EU Directive 2012/19/EU (WEEE).

› If you have any questions about the correct disposal of parts, please contact your dental trade supplier.

The unit may be contaminated. Instruct the company disposing of the waste to take the relevant safety precautions.

› Decontaminate potentially contaminated parts before disposing of them.

An overview of the waste keys for Dürr Dental products can be found in the download area at:
www.duerrdental.com
Document no.: P007100155

Product description

3 Overview

3.1 Scope of delivery

The following items are included in the scope of delivery (possible variations due to country-specific requirements and/or import regulations):

Power Tower View A949444000
– Basic unit
– 400 V electronics box
– VS 1200 S 400 V
– Bus interface CA 4
– Duo 400 V unit
– 20 l pressure tank
– Universal membrane dryer
– OroCup Care system

Power Tower View A949443000
– Basic unit
– 400 V electronics box
– VS 900 S 400 V
– Bus interface CA 4
– Duo 400 V unit
– 20 l pressure tank
– Universal membrane dryer
– OroCup Care system

Power Tower View A949454000
– Basic unit
– 400 V electronics box
– V 1200 S 400 V
– Duo 400 V unit
– 20 l pressure tank
– Universal membrane dryer

Power Tower View A949453000
– Basic unit
– 400 V electronics box
– V 900 S 400 V
– Duo 400 V unit
– 20 l pressure tank
– Universal membrane dryer

Power Tower View A949242000
– Basic unit
– 230 V electronics box
– VS 600 230 V
– Bus interface CA 4
– Duo 230 V unit
– 20 l pressure tank
– Universal membrane dryer
– OroCup Care system

Power Tower View A949252000
– Basic unit
– 230 V electronics box
– V 600 230 V
– Duo 230 V unit
– 20 l pressure tank
– Universal membrane dryer

Power Tower View A949243000
– Basic unit
– 230 V electronics box
– VS 900 S 230 V
– Bus interface CA 4
– Duo 230 V unit
– 20 l pressure tank
– Universal membrane dryer
– OroCup Care system

3.2 Optional items

The following optional items can be used with the device:

Pressure reducer 6040-992-00
Amalgam separator 7805-100-50
Compressor unit 400 V 3~ A949300059
Compressor unit 230 V 1~ A949300060
Retrofit unit 230 V including valve block A949100098
Valve block for 230 V 1~ A949300092

3.3 Wear parts and replacement parts

The following working parts must be replaced at regular intervals (refer also to "Maintenance"); these articles do not bear the CE mark:

Air intake filter 0832-982-00
Fine filter 1610-121-00
Virus bacteria filter 1650100172
Sintered filter 1650-101-00
Coalescence filter 1650200323

To configure the required filters or filter sets, you can also use our filter configurator at:
www.duerrdental.com/filterkonfigurator

Any repairs exceeding routine maintenance may only be carried out by qualified personnel or our service.

Information about replacement parts is available from the portal for authorised specialist dealers at:
www.duerrdental.net

If the mains cable of this unit is damaged it must only be replaced by an original mains cable from the manufacturer.

4 Technical data

Electrical data		
Frequency	Hz	50
Protection class		I
Type of protection		IP 20
Operating mode		S1

General technical data		
Dimensions (W x H x D)	mm	640 x 2080 x 610
Pressure tank volume	l	20
Pressure dew point at 7 bar (0.7 MPa) *	°C	<5
Safety valve settings, maximum permitted operating pressure	MPa	1
Minimum start-up pressure	MPa	0.5
Maximum cut-off pressure	MPa	0.9

* Value determined at an ambient temperature of +40°C

Classification	
Medical Device Class (MDR)	IIa

Compressor connection		
Lockable coupling	mm	7.2

Connections		
Vacuum connection (external)	mm	∅ 50
Exhaust air connection (external)	mm	∅ 50
Waste connections (DürrConnect)	mm	∅ 20

Network connection		
LAN technology		Ethernet
Standard		IEEE 802.3u
Data rate	Mbit/s	100
Connector		RJ45
Type of connection		Auto MDI-X
Cable type		≥ CAT5

CAN bus	
Connector	RJ45
Cable type	≥ CAT5

Ambient conditions during storage and transport		
Temperature	°C	-25 to +55

Ambient conditions during storage and transport		
Relative humidity	%	Max. 95

Ambient conditions during operation		
Temperature	°C	+10 to +40
Relative humidity	%	Max. 70
Height above sea level	m	< 2000

4.1 400 V 3~ variant

Delivery at 5 bar (0.5 MPa)*	l/min	123
Noise level **	dB(A)	55
Noise level ***	dB(A)	53
Current reduction without CA 4 amalgam separator	A	-0.2
Current reduction without second Duo unit	A	-2.5

* 1 compressor unit without drying unit
** At an ambient temperature of +40 °C, noise level in accordance with ISO 3744
*** At an ambient temperature of +35 °C, noise level in accordance with ISO 3744

PTV A949444000 and A949443000 with second Duo unit and CA 4

General technical data		
Weight	kg	275

Electrical data		
Rated voltage	V	400, 3N~
Nominal current at 10 bar (1.0 MPa)	A	9.0

PTV A949454000 and A949453000 with second Duo unit

General technical data		
Weight	kg	265

Electrical data		
Rated voltage	V	400, 3N~
Nominal current at 10 bar (1.0 MPa)	A	8.8

4.2 230 V 1~ variant

Delivery at 5 bar (0.5 MPa)*	l/min	115
Noise level **	dB(A)	55
Noise level ***	dB(A)	55
Current reduction without CA 4 amalgam separator	A	-0.5
Current reduction without second Duo unit	A	-6

Max. permitted mains impedance in accordance with IEC 61000-3-11	Ω	0.24

* 1 compressor unit without drying unit
** At an ambient temperature of +40 °C, noise level in accordance with ISO 3744
*** At an ambient temperature of +35 °C, noise level in accordance with ISO 3744

PTV A949242000 with second Duo unit

General technical data		
Weight	kg	275
Electrical data		
Rated voltage	V	230, 1N~
Nominal current at 9 bar (0.9 MPa)	A	18

PTV A949252000 with second Duo unit

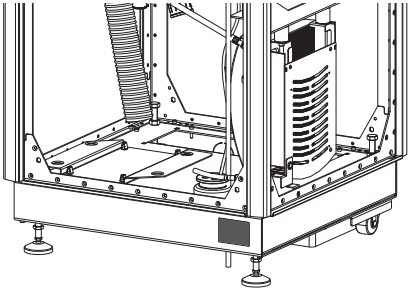
General technical data		
Weight	kg	265
Electrical data		
Rated voltage	V	230, 1N~
Nominal current at 9 bar (0.9 MPa)	A	17.5

PTV A949243000 with second Duo unit

General technical data		
Weight	kg	275
Electrical data		
Rated voltage	V	230, 1N~
Nominal current at 9 bar (0.9 MPa)	A	20.4

4.3 Type plate

The type plate is located at the bottom right of the housing.

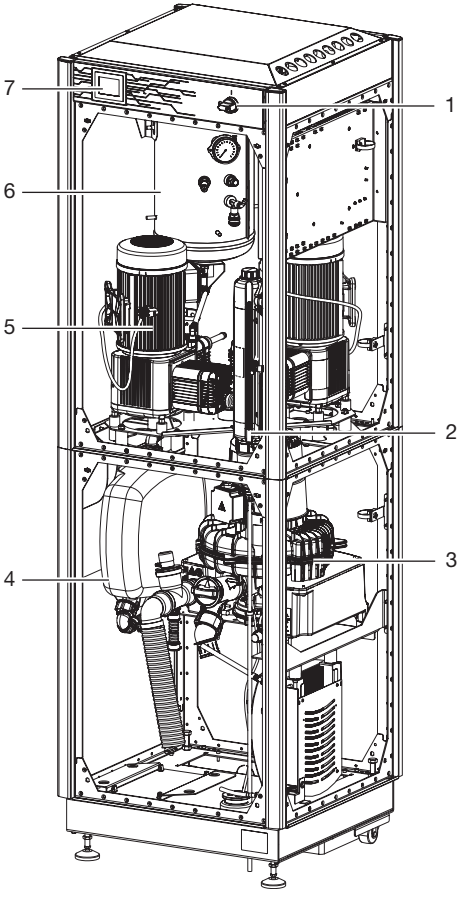


4.4 Declaration of conformity

This device has been subjected to conformity acceptance testing in accordance with the current relevant European Union guidelines. This equipment conforms to all relevant requirements.

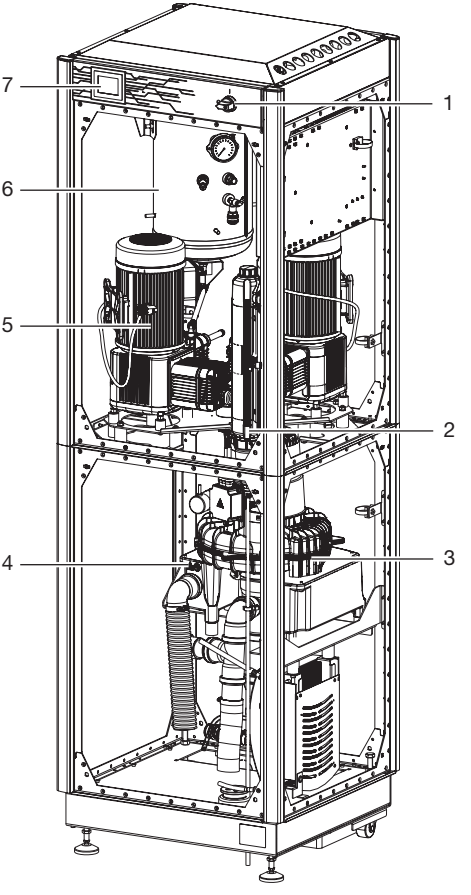
5 Operation

5.1 Wet suction system



1 Main power switch
2 Drying unit
3 Suction unit
4 Pressure equalisation tank
5 Compressor unit
6 Pressure tank
7 Touch display

5.2 Dry suction system

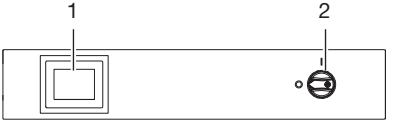


1 Main power switch
2 Drying unit
3 Suction unit
4 Condensation separator
5 Compressor unit
6 Pressure tank
7 Touch display

5.3 Functional description

The Power Tower View combines compressed air generation, suction and amalgam separation in one housing. The housing is insulated, ensuring an appropriate level of soundproofing. The unit is operated via a touch display and indicates the various parameters of the individual components.

5.4 Touch display



1 Touch display
2 Main power switch

The touch display shows unit data, operating statuses and messages, and user-dependent unit settings can be configured.

Assembly

Only qualified specialists or employees trained by Dürr Dental are permitted to install, connect and start using the unit.

6 Requirements

The unit must not be set up or operated within the vicinity of the patients (within a radius of 1.5 m).

The unit can be installed either at the same level as the surgery room or on a floor below (e.g. cellar).
Due of the amount of noise generated, we recommend that the unit is installed in an adjoining room.
The pipes provided on-site must at least meet the country-specific requirements for drinking water.
The compressed air network to which the unit is connected must be designed for the maximum pressure of the unit (10 bar).

Further information can be found in our separate planning information leaflet for compressed air.

Further information can be found in our suction planning information leaflet.
Order number9000-617-03/..

The room chosen for installation must satisfy the following requirements:
- Closed, dry, well-ventilated room
- It should not be a room made for another purpose (e.g. boiler room or wet cell).
- Set up the unit on a clean, level and sufficiently stable surface (take the weight of the unit into account).
- Set up the units so that the type plate can be easily read and the unit is easily accessible for operation and maintenance.
- Leave sufficient distance from any wall (at least 20 cm).
- Refer to the requirements for environmental conditions in "4 Technical data".

6.1 Pipe materials

Only use vacuum-sealed HT-waste pipes manufactured from the following materials:
- Polypropylene (PP),
- Chlorinated polyvinyl chloride (PVC-C),
- Plasticizer-free polyvinyl chloride (PVC-U),
- Polyethylene (PE).

The following materials must not be used:
- Acrylonitrile-butadiene-styrene (ABS),
- Styrene copolymer blends (e.g. SAN + PVC).

6.2 Hose materials

For waste connections and suction lines only use the following hose types:
- Flexible spiral hoses made of PVC with integrated spiral or equivalent hoses
- Hoses that are resistant to dental disinfectants and chemicals

Plastic hoses will display signs of ageing over time. Therefore, they should be inspected regularly and replaced as necessary.

The following types of hoses must not be used:
- Rubber hoses
- Hoses made completely of PVC
- Hoses that are not sufficiently flexible

6.3 Installation and routeing of hoses and pipes

› Execute the on-site pipe installation in accordance with the applicable local regulations and standards.

› Lay the hose installation of the drains to or from the unit at a sufficient incline.

If incorrectly laid, the hoses can become blocked with sedimentation.

6.4 Information about electrical connections

› Ensure that the electrical connections to the mains power supply are established in accordance with current valid national and local regulations and standards governing the installation of low voltage units in medical facilities.

› The connection to the mains supply must be a fixed connection that cannot be disconnected without the use of tools. Plug-in connections (power outlet/plug) are not permissible.
› Observe the current consumption of the devices that are to be connected.

Electrical fusing

Version 400 V, 3N~

LS switch 16 A, characteristic C and D in accordance with IEC 60898.

Version 230 V, 1N~

LS switch 25 A, characteristic C and D in accordance with IEC 60898.

6.5 Information about connecting cables

The diameter of the connections depends on the current consumption, length of line and the ambient temperature of the unit. Information concerning the current consumption can be found in the Technical Data supplied with the particular unit to be connected.
The following table lists the minimum diameters of the connections in relation to the current consumption:

Current consumption of unit [A]	Cross-section [mm²]
> 10 and < 16	1.5
> 16 and < 25	2.5
> 25 and < 32	4
> 32 and < 40	6
> 40 and < 50	10
> 50 and < 63	16

Control cable

24 V protective low voltage for:
– Hose manifold
– Place selection valve
– Spittoon valve

Installation type	Line layout (minimum requirements)
Fixed installation	– Shielded sheathed cable (e.g. (N)YM (St)-J)
Flexible	– PVC data cable with shielded cable sheathing, as used for telecommunications and IT processing systems (e.g. type LiYCY) or – Lightweight PVC control cable with shielded cable sheathing

Connect the shielding of the cables in accordance with the regulations.

7 Installation

7.1 Combining devices safely

Take care when connecting units together or to parts of other systems as there is always an element of risk (e.g. due to leakage currents).

› Only connect units when there can be no question of danger to operator or to patient.

› Only connect units when it is safe to do so and when there is no risk of damage or harm to the surroundings.

› If it is not 100% clear from the unit data sheet that such connections can be safely made or if you are in any doubt, always get a suitably qualified person (e.g. the manufacturer) to verify that the setup is safe.

Where applicable, the requirements for medical products have been taken into account in the development and construction of the device. As a result, this device is suitable for installation within medical supply equipment.

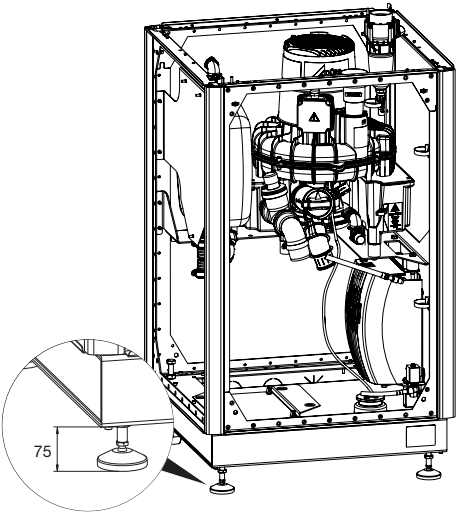
› Where this device is integrated in other medical supply equipment, the requirements of European Union Medical Device Regulation 2017/745 and the relevant standards must be observed.

7.2 Setting up the suction module

› Set up the lower part of the cabinet.

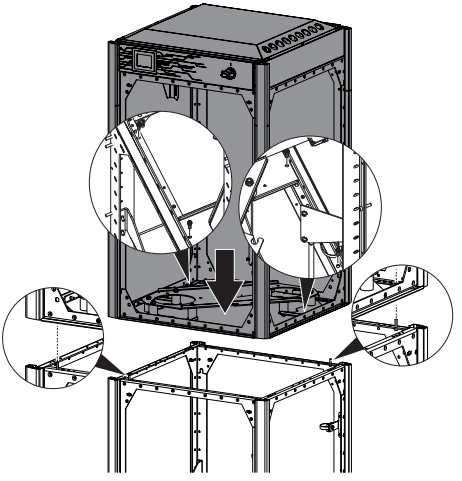
› Remove the transport protection.

› Attach the cover at the rear.



7.3 Install the compressed air module

› Mount the compressed air module on the suction module using four M5x20 thread-cutting screws. Screw two screws into the left-hand frame and two into the right-hand frame.



7.4 Installing the compressor unit

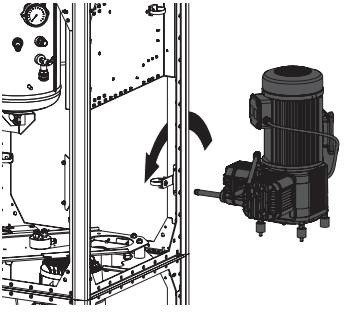
CAUTION

Functional disorder in case of incorrect installation

Unit does not start up.

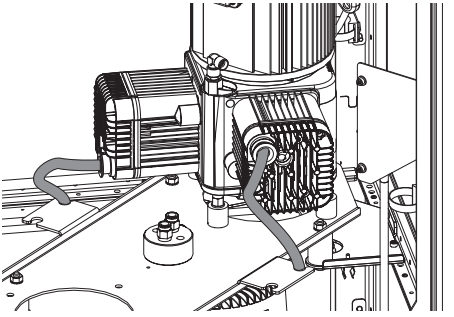
› When retrofitting a compressor unit in the case of 400 V variants, the compressor unit must have a star connection.

› Position the compressor unit in the unit.



› Mount the compressor unit on the retaining plate using four nuts.

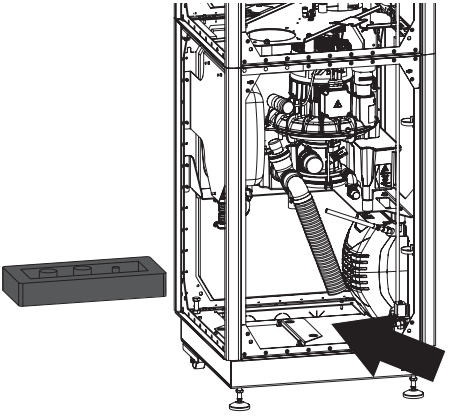
› Push on and secure the noise insulation on the suction manifold of the compressor unit.

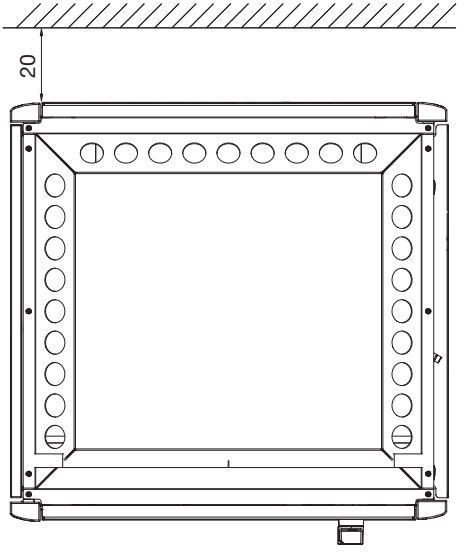


7.5 Positioning the unit

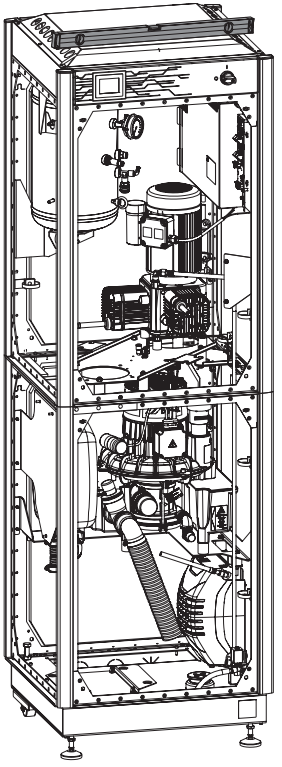
› Place the foam over the connections in the floor.

› Position the unit over the foam in such a way that the connections are easily accessible.

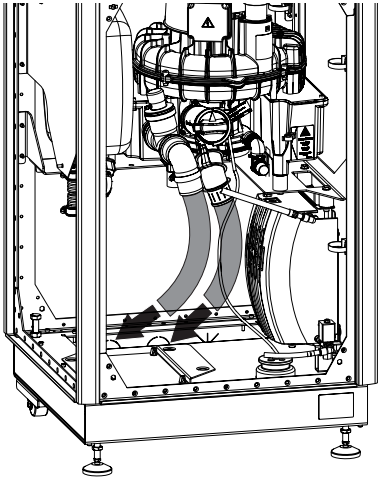




› Align the unit in its final position.



› Connect the exhaust air hose and suction hose to the floor connection.



7.6 Installing a second compressor unit (optional)

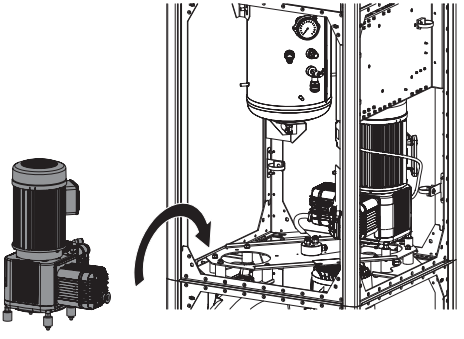
CAUTION

Functional disorder in case of incorrect installation

Unit does not start up.

› When retrofitting a compressor unit in the case of 400 V variants, the compressor unit must have a star connection.

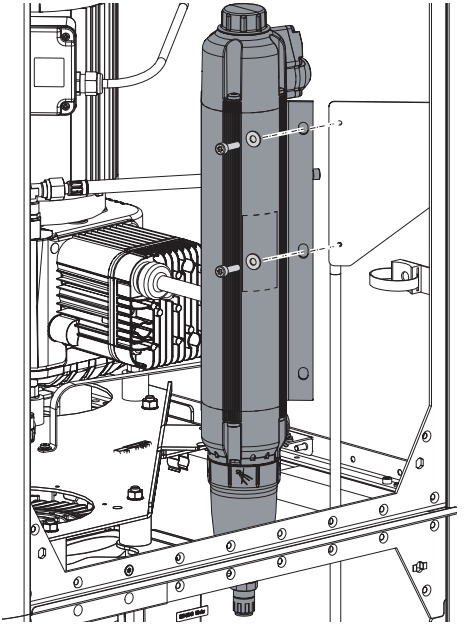
› Mount the second compressor unit and push on and secure the noise insulation on the suction manifold of the compressor unit.



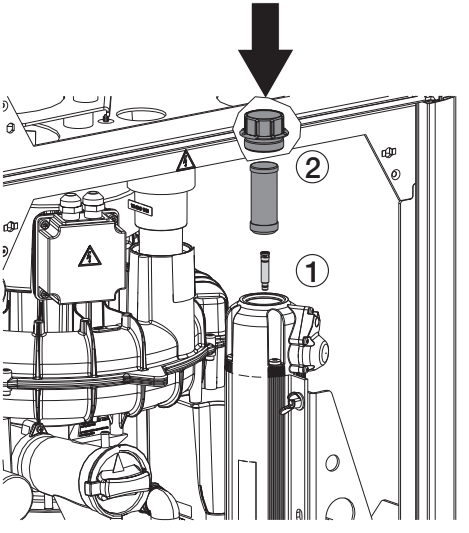
› Affix a spacer between the compressed air hoses of the two units.

7.7 Install the drying unit

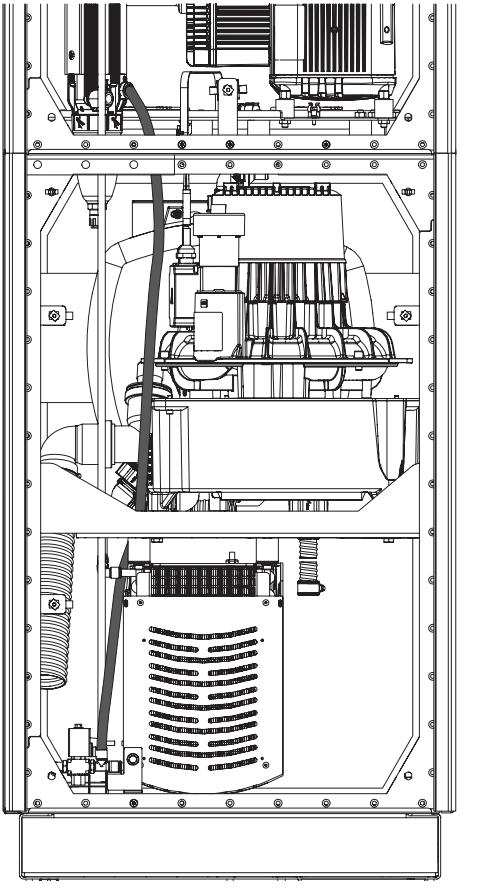
› Install the drying unit.



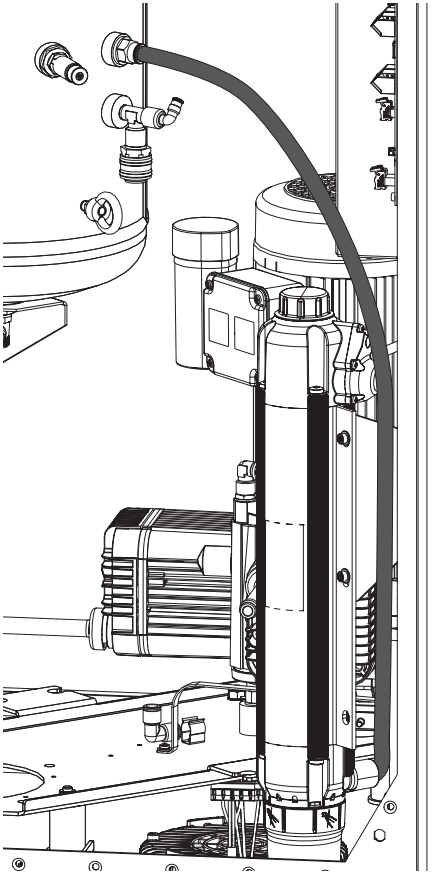
› Insert nozzle, see installation instructions 9000-610-49/01. Insert the filter and close the drying unit with the cover.



› Connect the drying unit to the compressed air hose coming out of the cooler.



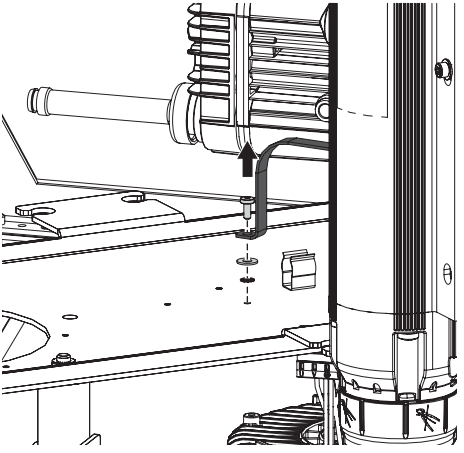
› Connect the drying unit to the pressure tank.



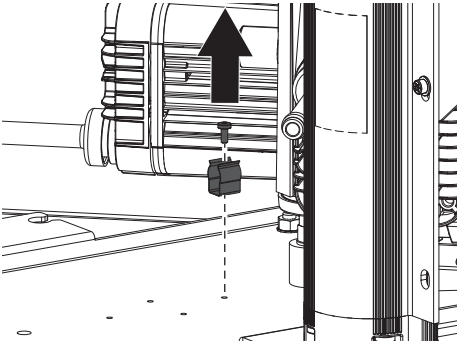
7.8 Additional work for 230 V variant

Operation with two compressor units

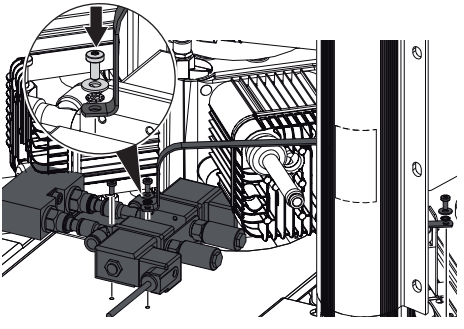
› Remove the earth strap.



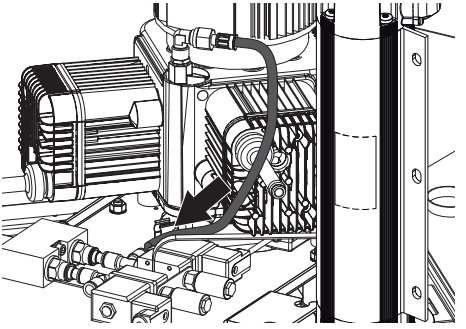
› Remove the clip for L bracket.



› Mount the valve block with earth strap.



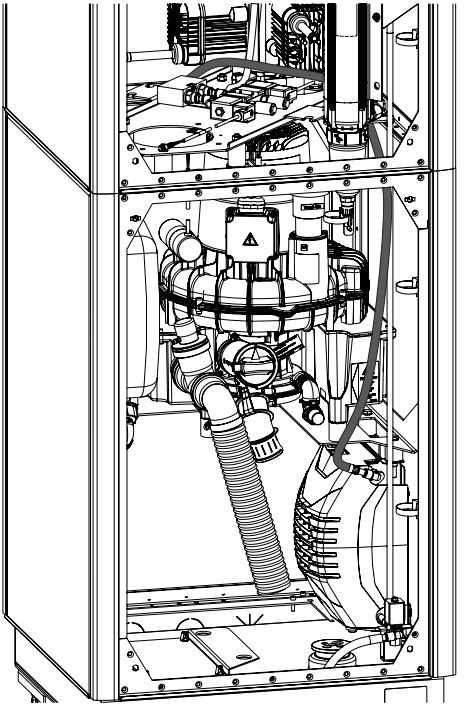
› Establish the compressed air connection between the compressor unit and valve block.



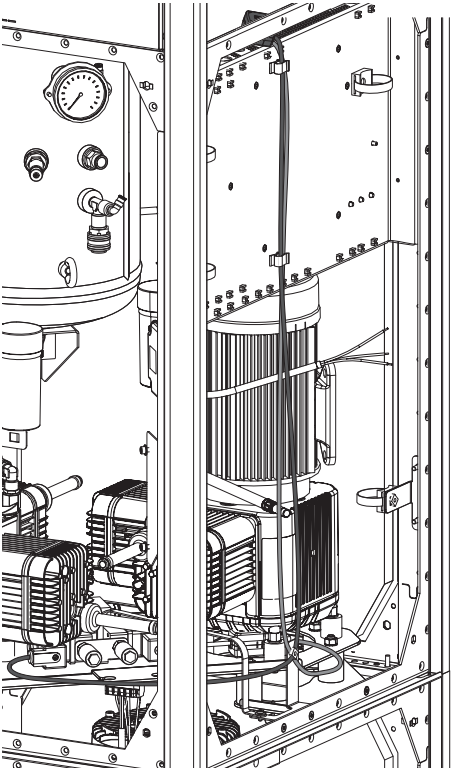
› Mount the second compressor unit and establish the compressed air connection.

› Affix a spacer between the compressed air hoses of the two units.

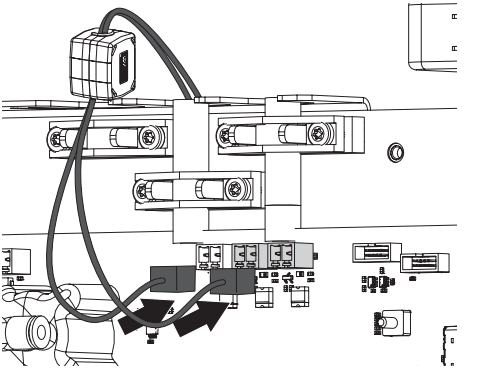
› Route the compressed air hose from the valve block to the cooler and connect it to the cooler.



› Lay the valve cable from the valve block to the PCB.

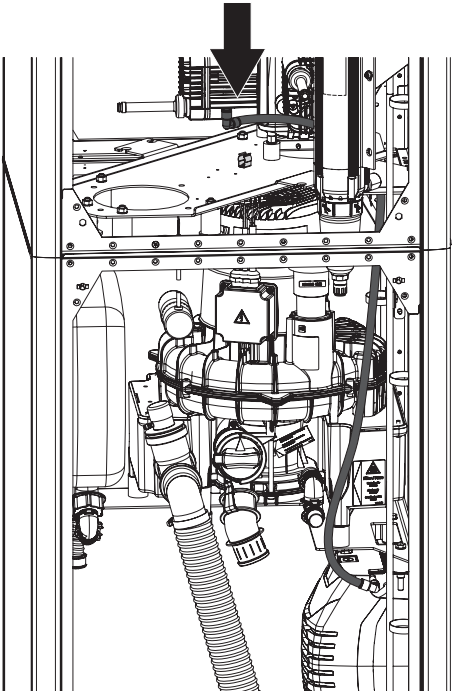


› Establish the electrical connections for the valves (see also "14.2 Version 230 V, 1N~").

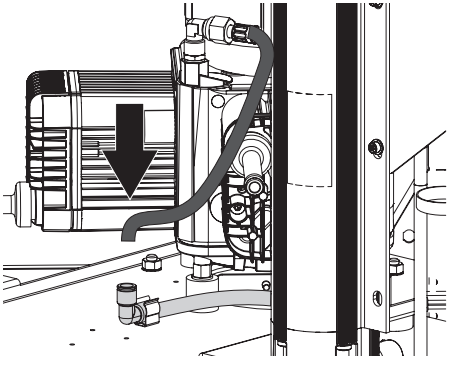


Operation with one compressor unit

› Mount the L bracket with the compressed air hose to the cooler.

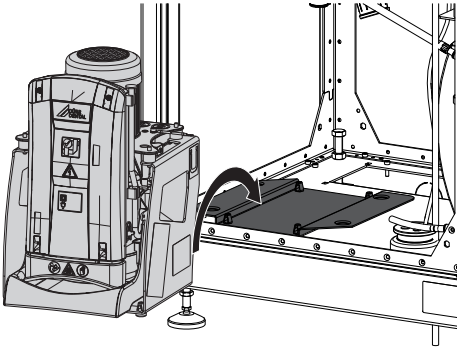


› Establish the compressed air connection for the compressor unit.



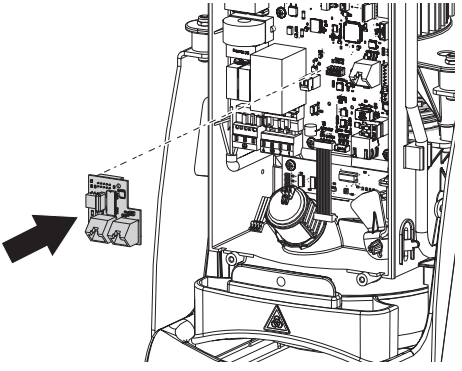
7.9 Install the amalgam separator (optional)

› Position the amalgam separator in the lower part of the cabinet.

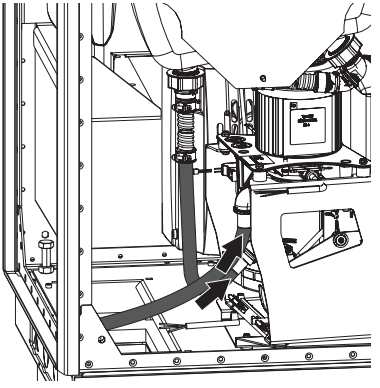


› Remove the electronic hood.

› Plug two spacers and then BUS adapters into slot X9 of the electronic circuit board.

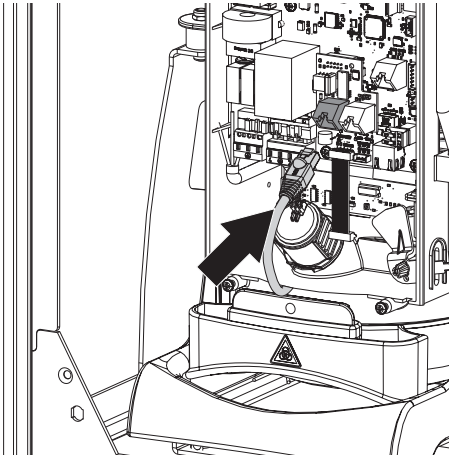


› Attach the wastewater connection of the pressure equalisation tank at the inlet of the amalgam separator and the wastewater hose on the amalgam separator outlet.



› Position the amalgam separator correctly in the Power Tower View.

› Plug the network cable into the network socket on the BUS adapter and connect to the RJ45 at X31 on the PCB of the device.



7.10 Connecting the unit

› Make sure that none of the electrical cables leading to the unit are under any mechanical tension.

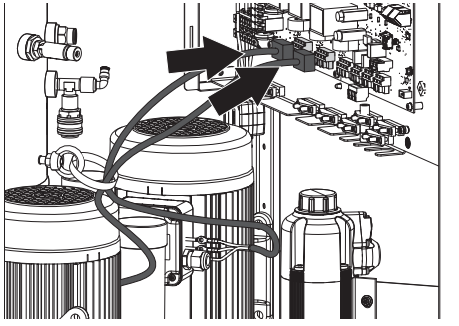
› Before start-up, check the mains voltage against the voltage indicated on the type plate (see also "4 Technical data").

› Ensure that the electrical connections to the mains power supply are established in accordance with current valid national and local regulations and standards governing the installation of low voltage units in medical facilities.

› The connection to the mains supply must be a fixed connection that cannot be disconnected without the use of tools. Plug-in connections (power outlet/plug) are not permissible.

› Observe the current consumption of the devices that are to be connected.

› Route the prepared cables in the unit, fasten to the pressure tank using Velcro and connect to the control board.



› Mount the cover on the control box.

› Mount the cover in the unit via the floor connections and side panels.

7.11 Two devices in a single compressed air network

In order to connect two units to a single compressed air network,

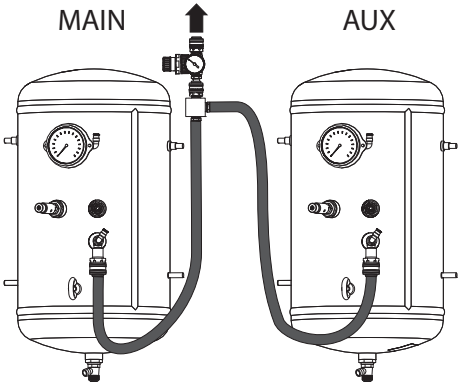
– the pressure vessels need to be connected to each other;

– the controllers need to be connected to each other.

Connecting pressure vessels

If two devices are connected to a single compressed air network, pressure equalisation must take place between the pressure vessels. To do this, the pressure vessels need to be connected to each other.

So that the pressure can be equalised, no non-return valves must be installed between the pressure vessels.



1 Main device (MAIN)
2 Auxiliary device (AUX)

MAIN / AUX for main device / auxiliary device

The two electronic controllers of the units are connected to each other via a network cable.

When routeing the cables, maintain the correct gaps between control cables and supply cables.

› Connect the network cable to the network socket X1 or X5.

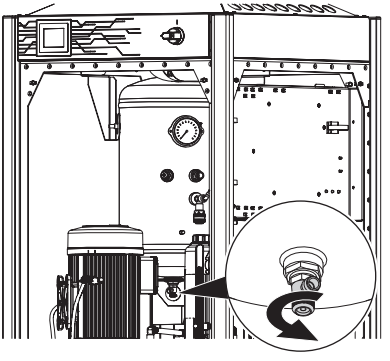
8 Commissioning

Perform an electrical safety check prior to commissioning.

› Switch on the main power switch.
The compressor will start and switches off at approx. 0.75 MPa.

› In the case of a 230 V variant with a compressor unit, deactivate the second compressor unit in the menu *System settings* > *Device configuration* > *Compressor* > *2. Activate / deactivate motor*.

› Open the condensate drain valve and drain the condensate.



› Switch on the suction machine by removing the suction hose from the hose manifold or by activating the rinsing of the spittoon (spittoon valve, "wet suction system").

› Carry out a functional inspection and check the connections for leaks.

› For alternating current suction machines, check the direction of rotation.

The VS suction machines continue after running for approx. 30 seconds. In the event of simultaneous start signals for the suction unit and the compressor units, the compressor units start up with a time delay to the suction unit.

› Switch off the suction machine by removing the suction hose from the hose manifold or by deactivating the rinsing of the spittoon.

8.1 Checking the switch-on/cut-off pressure

The switch-on/cut-off pressure is preset at the factory. Check the adjustment during first start-up.
When the unit is switched on at the main switch, the compressor with start after a short delay.

› Read off the cut-off pressure on the display.
› Drain the air from the pressure tank (e.g. via the condensate drain valve) until the unit starts and then close it again.
› Read off the pressure when the unit starts up. If the readings deviate from the values preset at the factory, adjust the values to the factory settings. If other pressure values are required, take care to observe the maximum pressure difference.

8.2 Checking the safety valve

Correct operation of the safety valve must be checked when the unit is started up for the first time and again subsequently at regular intervals.

At the factory, the safety valve is set to 10 bar (1 MPa), checked and stamped.

DANGER

Risk of explosion of the pressure tank and pressure hoses

› Do not change the safety valve settings.

› Switch on the unit at the main switch and fill the pressure tank to the cut-off pressure.

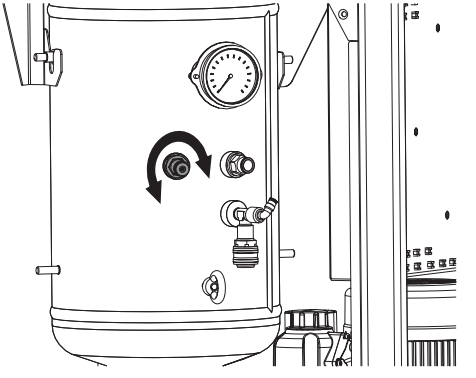
WARNING

Risk of damage to the safety valve

Risk of explosion of the pressure tank and pressure hoses due to a defective safety valve

› Do not use the safety valve to vent the pressure tank.

› To open, rotate the screw of the safety valve anti-clockwise until the valve begins to blow off. Only allow the safety valve to blow for a short period.
› Then turn the screw clockwise as far as it will go to close the valve. The valve must now be closed again.



An adequate ventilation by fans in the unit is only possible when all covers are attached. Do not cover the air inlets on the housing.

› Place all covers on the unit.

8.3 Monitoring the unit via the network

The following requirements must be met in order to monitor the unit on the computer:
– Unit connected to the network
– Current monitoring software installed on the computer

Combining devices safely

– The overall safety of the unit and its main performance features are independent of the network. The device is designed for operation independent of a network. However, some of the functions are not available in this case.
– Incorrect manual configuration can lead to significant network problems. The expert knowledge of a network administrator is required for configuration.
– The data connection utilises part of the bandwidth of the network. Interactions with other medical devices cannot be completely ruled out. Apply the IEC 80001-1 standard for risk assessment.
– The device is not suitable for direct connection to the public Internet.

Network configuration

Various options are available for network configuration:
✓ Automatic configuration via DHCP (recommended).
✓ Automatic configuration via Auto-IP for direct connection of unit and computer.
✓ Manual configuration.
› Configure the network settings of the unit using the software or, if available, the touch screen.
› Check the firewall and release the ports, if applicable.

Network protocols and ports

Port	Purpose	Service
45123 UDP, 45124 UDP	Unit recognition and configuration	
1900 UDP	Service indicator	SSDP / UPnP
502 TCP	Device data	
514[1)] UDP	Event log data	Syslog
22 TCP, 23 TCP	Diagnosis	Telnet, SSH
123 UDP	Time	NTP

1) The port may vary depending on the configuration.

Usage

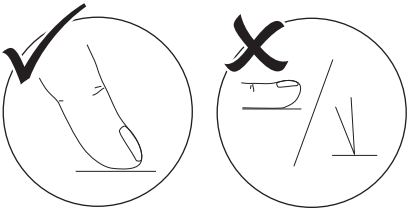
9 Operating the touch screen

NOTICE

Damage to the touch screen due to incorrect handling

› Only touch the touch screen with your fingertips.
› Do not use a sharp instrument (e.g. ballpoint pen) to operate the touch screen.
› Protect the touch screen against water.

› Operate the touch screen by tapping it with a fingertip to select a button or input field.



9.1 Navigating

If the contents of the window cannot be completely displayed on the touch screen, a scroll bar appears.

› Tap ⌄ or ⌃ to move the displayed section of the window.

9.2 Using menus

Use the buttons to switch to other menus.

› Tap ≡ to switch to *Settings*.
› Tap Next to scroll.
› Tap ⌂ to switch to the start screen.
› Tap ↩ to switch to the previous menu level.

› Tap ? to switch to the detail view for the alarm texts.

9.3 Calling up messages on the touch screen

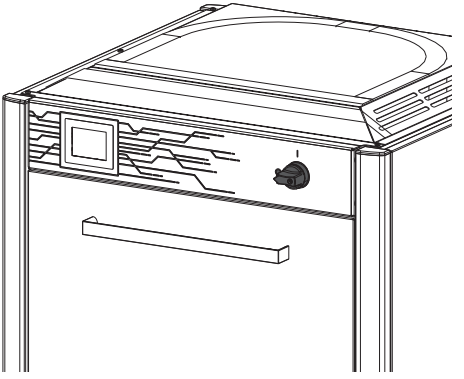
Messages are divided into the following categories:

Fault	Unit will no longer function. When the error has been remedied, it may be necessary to acknowledge the error message.
Notice	After acknowledgement the unit will continue to work, but only with limited functions.
Note	Important information for the operator, e.g. about the current status of the device. The unit continues to operate.
Information	Information for the operator. The unit continues to operate.

10 Operation

10.1 Switch on the unit.

› Switch on the unit at the main power switch.



10.2 Device information

Use the menus *Unit information* > *Unit data* and *Unit information* > *Unit usage data* to call up information including:

– IP address
– Serial number
– Firmware version

10.3 Configuring the units

Use the *Parameters* menu to configure settings including:

– Compressor pressure range
– Suction unit lag time

Use the *System settings* menu to configure settings including:

– IP address
– Language

10.4 Amalgam separator

› Tap
The fill level of the amalgam collecting container and the pressure in the pressure tank are displayed.
› Tap Next
The humidity and the temperature of the electronics are displayed.

11 Maintenance

Prior to working on the unit or in case of danger, disconnect it from the mains.

› Comply with the specifications of the Installation and Operating Instructions for the devices installed.

11.1 Compressor unit and drying unit

WARNING

Risk of infection due to burst filters

Particles enter the compressed air network and can therefore enter the mouth of the patient.

› Replace filters in accordance with the maintenance schedule.

Wear protective equipment to avoid any risk of infection (e.g. liquid-tight protective gloves, protective goggles, face mask).

Maintenance schedule

NOTICE

Risk of damage to the unit due to blocked filters

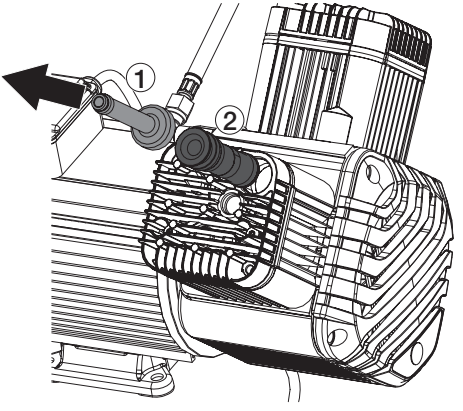
Continuous running due to reduced delivery. Damage to the unit due to burst filters.

› Replace filters in accordance with the maintenance schedule.

Maintenance interval	Maintenance work
Annually	› Replace the air intake filter in the compressor unit – do this every six months if there is a high concentration of dust. › Replace the fine or virus bacteria filter. › Replace the sintered filter.
In accordance with national law	› Check the safety valve. › Carry out recurring safety inspections (e.g. pressure tank inspections, electrical safety inspections) in accordance with applicable national laws.

Replacing the air intake filter

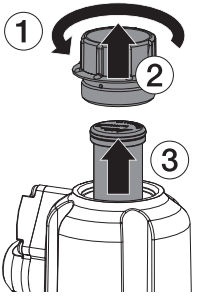
› Switch off the device.
› Pull off the noise reducer from the air intake filter.
› Remove the air intake filter.
› Insert a new air intake filter.
› Push on the noise reducer onto the air intake filter.



Replacing the filter of the drying unit

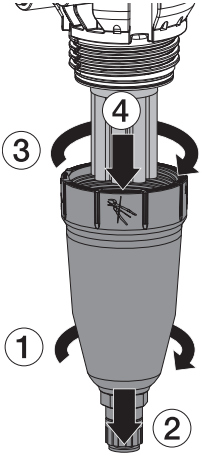
Fine or virus bacteria filter

› Unscrew and remove the filter cover.
› Remove the filter.
› Insert a new filter.
› Replace the filter cover and close.



Sintered filter

› Unscrew and remove the filter housing.
› Remove the filter.
› Insert a new filter.
› Replace the filter housing and close.



Wear parts and replacement parts

The following working parts must be replaced at regular intervals (refer also to "Maintenance"); these articles do not bear the CE mark:

Air intake filter 0832-982-00
Fine filter 1610-121-00
Virus bacteria filter 1650100172
Sintered filter 1650-101-00
Coalescence filter 1650200323

To configure the required filters or filter sets, you can also use our filter configurator at:
www.duerrdental.com/filterkonfigurator

Any repairs exceeding routine maintenance may only be carried out by qualified personnel or our service.

Information about replacement parts is available from the portal for authorised specialist dealers at:
www.duerrdental.net

Troubleshooting

12 Tips for operators and service technicians

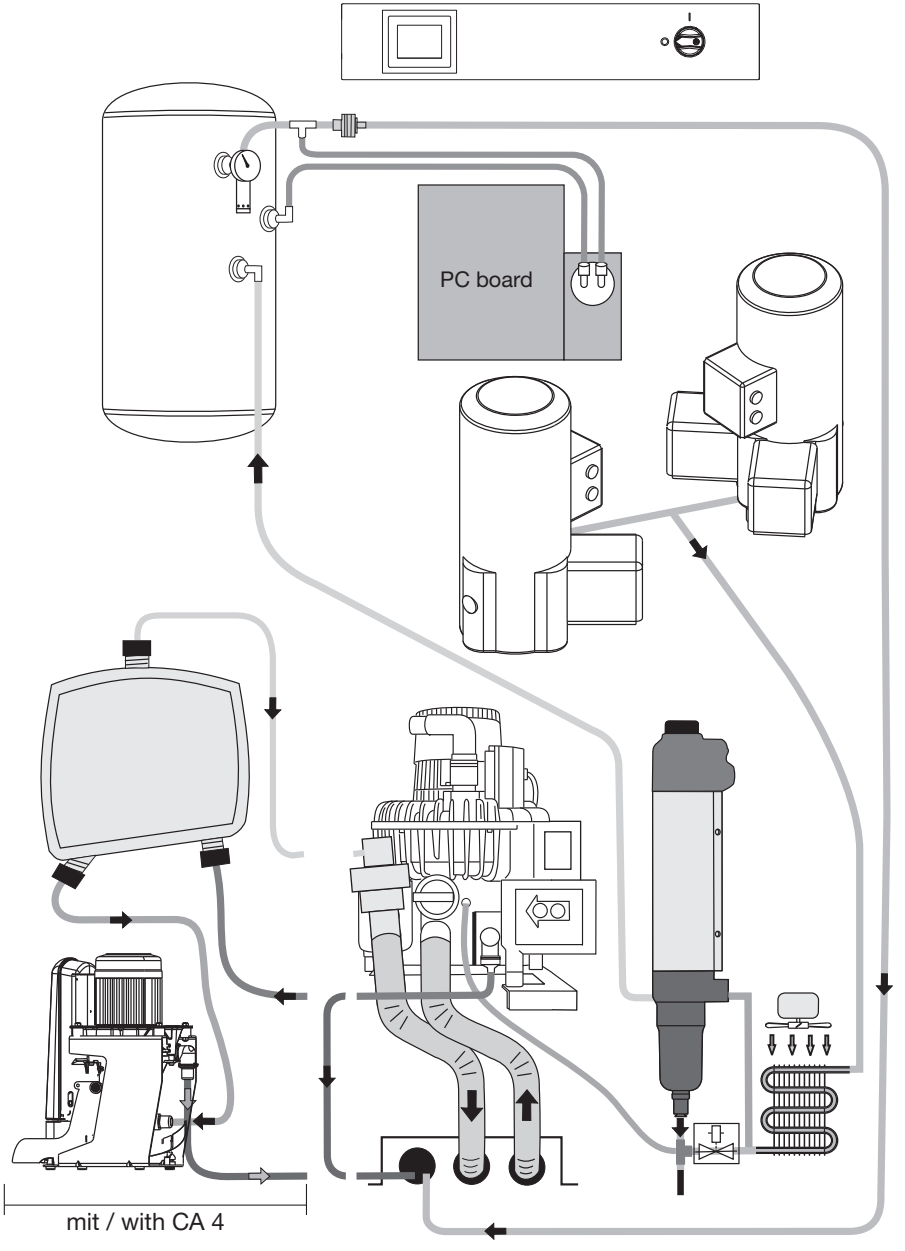
Any repairs exceeding routine maintenance may only be carried out by qualified personnel or our service.

Prior to working on the unit or in case of danger, disconnect it from the mains.

Error	Possible cause	Remedy
Direction of rotating field incorrect	The phases of the supply voltage cable have been mixed up, the suction unit motor may be rotating in the wrong direction	› Switch the phases of the supply voltage cable.

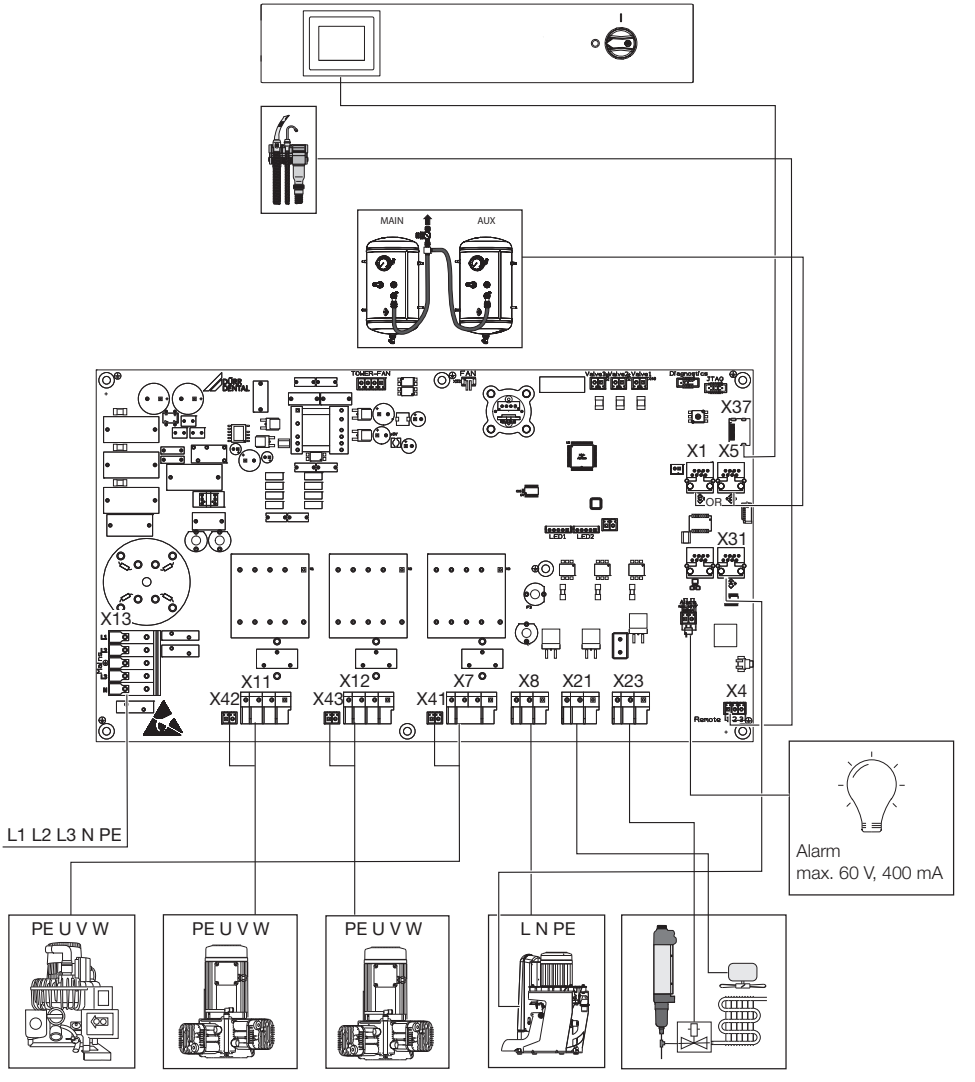
Appendix

13 Connection media plan

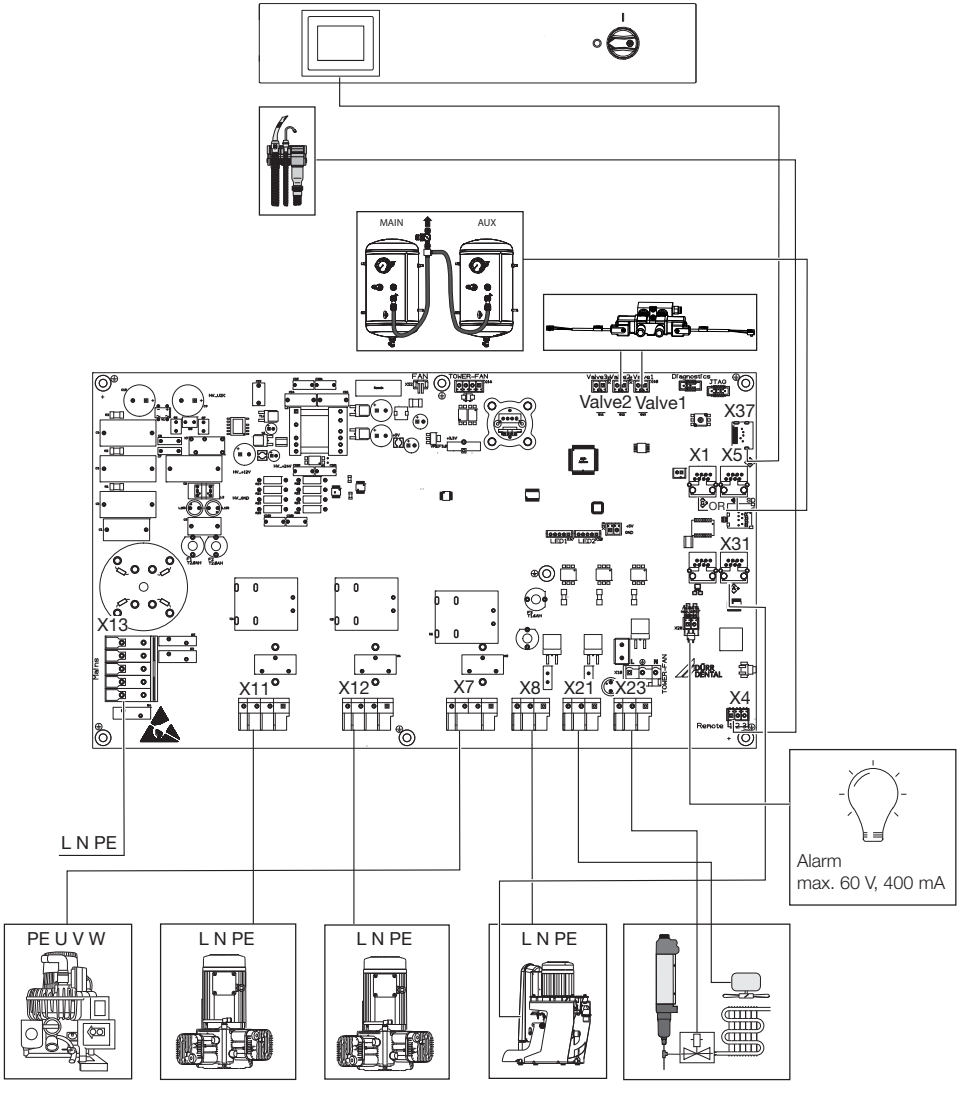


14 Electrical connection plan

14.1 Version 400 V, 3N~



14.2 Version 230 V, 1N~



15 Menu structure

15.1 Settings

Level 1	Level 2	Level 3	Level 4
Access level[1]	Operator		
	Administrator		
	Service Technician (PIN)		
Device Information[1]	Device data		
	Device usage data		
System settings[1]	Language [1]	German (DE)	
		English (EN) ...	
	Date / time[2]	Time zone	
		Date	
		Time	
	Network [2]	DHCP	
		IP address	
		Netmask	
		Gateway	
	System of units[2]	Metric	
		Imperial	
	Unit configuration[3]	Amalgam separator[3]	Remove amalgam separator
		Compressor[3]	Activate / Deactivate second motor
		Cluster settings[3]	Auxiliary unit
			Main unit
	Factory settings[3]	Clear message history	
Parameters[3]	Start-up pressure[3]		
	Cut off pressure[3]		
	Lag time		
Message history[2]			
Maintenance[3]	Maintenance completed		
Service menu[2]	Compressor	Motors	Start motors
		Emergency mode[2]	Reset
	Amalgam separator[3]	Start motor	
	Suction unit[3]	Start motor	

1 Visible from access level ***Operator*** or higher
2 Visible from access level ***Administrator*** or higher
3 Visible from access level ***Service Technician*** or higher

The access level "Service Technician" offers additional functions that must only be adjusted by Dürr Dental or by individuals/companies authorised to do so by Dürr Dental. Corresponding documents for this can be downloaded from www.duerrdental.net.

16 Handover record

This document confirms that a qualified handover of the medical device has taken place and that appropriate instructions have been provided for it. This must be carried out by a qualified adviser for the medical device, who will instruct you in the proper handling and operation of the medical device.

Product name	Order number (REF)	Serial number (SN)

- ☐ Visual inspection of the packaging for any damage
- ☐ Unpacking the medical device and checking for damage
- ☐ Confirmation of the completeness of the delivery
- ☐ Instruction in the proper handling and operation of the medical device based on the operating instructions

Notes:

Name of person receiving instruction: **Signature:**

Name and address of the qualified adviser for the medical device:

Date of handover: **Signature of the qualified adviser for the medical device:**

Hersteller / Manufacturer:

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