Dürr Dental PTS 200

EN

Installation and Operating Instructions

CE

9000-619-14/30

DÜRR DENTAL

2013/07SE

Inhalt

Important Information

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EN

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Important Information

1. General

1.1 Note on Conformity

This product has been designed and produced according to the relevant directives conserning such appliances under the European Union and has undergone conformity testing and has been found to adhere to all requirements covered by these directives, see Declaration of Conformity.

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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 precondition 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. In addition, only those accessories may be used which are specifically mentioned in the Installation and Operating Instructions or have been authorised by Dürr Dental. If other accessories are used with this appliance, Dürr Dental cannot guarantee safe operation or proper functioning. No liability on the part of the manufacture will be accepted in the case that damage arises through the use of non-approved accessories.
- 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 circuits, processes, names, software and appliances quoted are protected under industrial property rights.
- This translation of the Installation and Operating Instructions has been carried out in all good faith. Dürr Dental deny any liability for inaccurate translation and in the case of any doubts the user should contact Dürr Dental or their supplier. The enclosed German version of the Installation and Operating Instructions is the original.
- Any reprinting of the technical documentation, in whole or in part, is subject to prior approval of Dürr Dental being given in writing.
- 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!

1.3 Appliance disposal

The EU guideline 2002/96/EC - WEEE (Waste Electric and Electronic Equipment) dated 27 January 2003 and its current implementation in national law determines that dental products are subject to the aforementioned guideline and special disposal must be performed within the European Union..
Questions on the technically correct disposal of the products should be addressed to Dürr Dental or the dental specialist store.

1.4 Correct Usage

The PTS 200 has been designed to provide a supply of compressed air, to provide vacuum and perform amalgam separation (depending on model of PTS chosen) and the operation of dental units.
Correct usage of this appliance requires observance of all notes and requirements concerning operation, set up and maintenance.

1.5 Incorrect usage

Do not operate the PTS 200 in rooms where operations are carried out.
The compressed air is not to be used for respiration appliances or for similar uses, e.g. those found in operating theatres.
Do not suck up any explosive gases using the vacuum facilities.

Any usage above and beyond that explicitly mentioned 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.

1.6 Connecting peripheral appliances

Appliances may only be connected together or connected to any other assemblies where complete and utter safety of the patients, operators and staff and of the environment will not be affected in any way.
Where any doubts remain concerning the safety when connecting to other units then the operator is obliged to ascertain that such connection can in no way affect the safety of operator, patient or other staff by referring to the manufacturer or a fully qualified and competent expert.

2. Safety

2.1 General Safety Notes

This appliance has been so designed by Dürr Dental that any danger in operation is out of the question when the appliance is used correctly. 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.
- Installation must be carried out by a technical expert.
- 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.

2.2 Electrical safety instructions

- Before connecting to the electricity supply the appliance must be inspected and checked that the supply voltage and the supply frequency correspond to that of the local electrical supply.
- Before initial use and start-up the appliance and all supply lines must be checked for any signs of damage. Damaged supply lines and connections must be replaced immediately.
- When using the appliance observe all the relevant electrical safety procedures.

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3. Warnings and Symbols

In the operating instructions the following warnings and symbols have been used:

Information and/or mandatory regulations or prohibitions for the prevention of personal injury or substantial property damage.

Warning - dangerous electrical voltage.

Special information regarding economical use of the appliance or other information.

Take environmental and ambient conditions into account. Do not operate the unit in damp or wet conditions.

Unplug at the mains and remove all power

Further Warnings and Symbols concerning individual devices can be found in the relevant Installation and Operating Instructions supplied with that device.

3.1 Model identification plate

The model identification plate is positioned inside the Power Tower cabinet, see figs. 1 and 2.

REF Order no. / model no.

SN Serial-No.

Read the accompanying documentation carefully

4. Delivery Contents

PTS 200/01
Model 0949-200/01

Model type 400V, 3~, 50Hz
Cabinet base unit with VS 900 S . . 0949-501-52
VS 900 S (built in) 7134-02/021
Cabinet upper section. 0949-524-52
Membrane-drying unit. 1650-980-00
DUO compressor generator 5250-100-66
CA 4 Amalgam Separator for PTS . 7805-200-50

PTS 200/02
Model 0949-200/02

Model type 400V, 3~, 50Hz
Cabinet base unit with VS 900 S . . 0949-501-52
VS 900 S (built in) 7134-02/021
Cabinet upper section. 0949-524-52
Membrane-drying unit. 1650-980-00
DUO compressor generator 5250-100-66
DUO compressor generator conversion unit 0949-500-50
CA 4 Amalgam Separator for PTS . 7805-200-50

PTS 200/04
Model 0949-200/04

Model type 230V, 1~, 50Hz
Cabinet base unit with VS 900 S . . 0949-504-52
VS 900 S (built in) 7134-01/021
Cabinet upper section. 0949-526-52
Membrane-drying unit. 1650-980-00
DUO compressor generator 5250-100-56
DUO compressor generator conversion unit 0949-500-52
CA 4 Amalgam Separator for PTS . 7805-200-50

PTS 200/05
Model 0949-200/05

Model type 230V, 1~, 50Hz
Cabinet base unit with VS 600 S . . 0949-522-52
VS 600 S (built in) 7128-01/021
Cabinet upper section. 0949-526-52
Membrane-drying unit. 1650-980-00
DUO compressor generator 5250-100-56
DUO compressor generator conversion unit 0949-500-52
CA 4 Amalgam Separator for PTS . 7805-200-50

PTS 200/11
Model 0949-200/11

Model type 400V, 3~, 50Hz
Cabinet base unit with VS 900 S . . 0949-511-52
V 900 S (built in) 7131-02/021
Cabinet upper section. 0949-512-52
Membrane-drying unit. 1650-980-00
DUO compressor generator 5250-100-66

PTS 200/12
Model 0949-200/12

Model type 400V, 3~, 50Hz
Cabinet base unit with VS 900 S . . 0949-511-52
V 900 S (built in) 7131-02/021
Cabinet upper section. 0949-512-52
Membrane-drying unit. 1650-980-00
DUO compressor generator 5250-100-66
DUO compressor generator conversion unit 0949-500-50

PTS 200/13
Model 0949-200/13

Model type 400V, 3~, 50Hz
Cabinet base unit with VS 1200 S . 0949-511-52
VS 1200 S (built in) 7136-02/021
Cabinet upper section. 0949-512-52
Membrane-drying unit. 1650-980-00
DUO compressor generator 5250-100-66
DUO compressor generator conversion unit 0949-500-50

PTS 200/21
Model 0949-200/21

Model type 230V, 1~, 50Hz
Cabinet base unit with V 600 S . . . 0949-511-52
V 600 (built in). 7127-01/021
Cabinet upper section. 0949-520-52
Membrane-drying unit. 1650-980-00
DUO compressor generator 5250-100-56

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PTS 200/22
Model 0949-200/22

Model type 230V, 1~, 50Hz
Cabinet base unit with VS 600 S . . 0949-522-52
VS 600 S (built in) 7128-01/021
Cabinet upper section. 0949-523-52
Membrane-drying unit. 1650-980-00
DUO compressor generator 5250-100-56
CA 4 Amalgam Separator for PTS . 7805-200-50

PTS 200/31
Model 0949-200/31

Model type 400V, 3~, 50Hz
Cabinet base unit with VS 900 S . . 0949-501-52
VS 900 S (built in) 7134-02/021
Cabinet upper section. 0949-524-52
Membrane-drying unit. 1650-980-00
DUO compressor generator 5250-100-66

PTS 200/32
Model 0949-200/32

Model type 400V, 3~, 50Hz
Cabinet base unit with VS 900 S . . 0949-501-52
VS 900 S (built in) 7134-02/021
Cabinet upper section. 0949-524-52
Membrane-drying unit. 1650-980-00
DUO compressor generator 5250-100-66
DUO compressor generator conversion unit 0949-500-50

PTS 200/33
Model 0949-200/33

Model type 230V, 1~, 50Hz
Cabinet base unit with VS 600 S . . 0949-522-52
VS 600 S (built in) 7128-01/021
Cabinet upper section. 0949-523-52
Membrane-drying unit. 1650-980-00
DUO compressor generator 5250-100-56

PTS 200/42
Model 0949-200/42

Model type 400V, 3~, 50Hz
Cabinet base unit with VS 1200 S . 0949-501-52
VS 1200 S (built in) 7138-02/021
Cabinet upper section with display module 0949-524-72
Membrane-drying unit. 1650-980-00
DUO compressor generator 5250-100-66
DUO compressor generator conversion unit 0949-500-50
CA 4 Amalgam Separator for PTS . 7805-200-50
CA 4 BUS-adapter 7805-992-00

4.1 Special accessories

The parts listed as special accessories are **not** part of the standard scope of delivery but can be ordered separately.

Pressure reducer. 6040-992-00

4.2 Disposable materials

Recycling-Box 7805-032-00
Filter insert for compressor 0832-982-00
Filter insert for dry air unit 1610-121-00
Sterile filter for dry air unit 1640-981-00
Sinter filter for drying unit 1650-101-00

5. Technical Data

PTS 200/01

Model		0949-200/01
Voltage	V	400 / 3~
Frequency	Hz	50
Current consumption	A	8.3 (11.4)*
Output	kW	3.7 (5.1)*
Weight ca.	kg	266

PTS 200/02

Model		0949-200/02
Voltage	V	400 / 3~
Frequency	Hz	50
Current consumption	A	11.4
Output	kW	5.1
Weight ca.	kg	301

PTS 200/04

Model		0949-200/04
Voltage	V	230 / 1~
Frequency	Hz	50
Current consumption	A	21.6
Output	kW	4.6
Weight ca.	kg	301

PTS 200/05

Model		0949-200/05
Voltage	V	230 / 3~
Frequency	Hz	50
Current consumption	A	19,2
Output	kW	4,1
Weight ca.	kg	301

PTS 200/11

Model		0949-200/11
Voltage	V	400 / 3~
Frequency	Hz	50
Current consumption	A	7.3 (10.4)*
Output	kW	3.5 (4.9)*
Weight ca.	kg	237

PTS 200/12

Model		0949-200/12
Voltage	V	400 / 3~
Frequency	Hz	50
Current consumption	A	10.4
Output	kW	4.9
Weight ca.	kg	265

PTS 200/13

Model		0949-200/13
Voltage	V	400 / 3~
Frequency	Hz	50
Current consumption	A	10.6
Output	kW	4.9
Weight ca.	kg	270

PTS 200/21

Model		0949-200/21
Voltage	V	230 / 1~
Frequency	Hz	50
Current consumption	A	11.9
Output	kW	2.5
Weight ca.	kg	222

PTS 200/22

Model		0949-200/22
Voltage	V	230 / 1~
Frequency	Hz	50
Current consumption	A	12.9
Output	kW	2.8
Weight ca.	kg	236

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PTS 200/31

Model		**0949-200/31**
Voltage	V	400 / 3~
Frequency	Hz	50
Current consumption	A	7.3 (10.4)*
Output	kW	3.5 (4.9)*
Weight ca.	kg	256

PTS 200/32

Model		**0949-200/32**
Voltage	V	400 / 3~
Frequency	Hz	50
Current consumption	A	10.4
Output	kW	4.9
Weight ca.	kg	291

PTS 200/33

Model		**0949-200/33**
Voltage	V	230 / 1~
Frequency	Hz	50
Current consumption	A	11.9
Output	kW	2.5
Weight ca.	kg	226

PTS 200/42

Model		**0949-200/42**
Voltage	V	400 / 3~
Frequency	Hz	50
Current consumption	A	11.6
Output	kW	5.2
Weight ca.	kg	300

* The values in brackets give the current consumption and performance for the complete PTS conversion

5.1 Valid for all models

The relevant Technical Data for each of the systems (e.g. VS 900 S) can be found in the Installation and Operating Instructions supplied with the appropriate appliance.

Suction unit **control voltage**	V	24 AC
PTS with display	V	24 DC
Fuse type		IP20
Protection class		1
Operating model		S1
(0949-200/04, ../05)		(S3)
Duty cycle	%	100
(0949-200/04, ../05)	%	(80)
Pressure tank volume	l	20
Noise levels *	dB(A)	approx. 53
Model 200/13	dB(A)	approx. 56
Dimensions		
H x W x D	cm	205x64x61
PTS connections		
Waste water	mm	Ø 20
Exhaust air	mm	Ø 50
Suction system	mm	Ø 50
Compressed air lines		Quick release coupling for hose 15x1 mm

* According to EN ISO 1680 Noise emissions; measured in sound-proofed room. The values are mean values with a tolerance of ca. ±1.5 dB(A). Set up in rooms with unfavourable characteristics (e.g. tiled walls) can lead to higher noise levels.

5.2 Ambient conditions

Ambient conditions during storage and transport

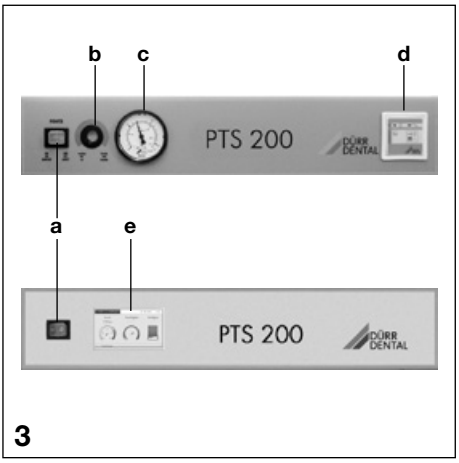
Temperature (°C). . . . . -25 to +55, for 24h to 70

Rel. humidity: . . . . . .max. 90 %

Ambient conditions during operation

Temperature (°C). . . . . +10 to +40

Rel. humidity: . . . . . .max. 70 %



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6. Functional Description

Detailled descriptions of the function of each individual unit can be found in the Installation and Operating Instructions supplied with the appropriate appliance.

a Main power switch: On (I) / Out (0)

Even when the power switch is in the off (O) position certain components are still subject to live current (e.g. pressure switch, PCB of control unit).

b Display for relative humidity:
blue < 30%
pink > 30%
Display:
optimum range ca. 0 - 30%

c Pressure level display
Start-up 6.0 bar
Switch-off 7.5 bar

d Amalgam Separator display panel

e Display for operating state, messages and operation of the PTS

6.1 Compressor generator

A pressure sensor monitors the pressure in the pressure tank. The compressor generator is automatically switched on and off depending on the pressure settings which have been set up and the actual pressure within the tank.
Air at atmospheric pressure is drawn in through the suction filter and the inlet valve into the cylinder chamber.
The piston in the cylinder compresses the air drawn in and supplies it to the dry-air unit.

6.2 Drying units

This humid, compressed and warmed air is then cooled, dried and filtered by the dry-air unit. This then maintains a relative humidity of the air inside the pressure tank below 30%.

6.3 Suction unit

The suction unit is started either by the removal of suction hose from the hose manifold or by action of the spittoon valve.
The vacuum thereby produced supplies the treatment unit with suction power.
(300 - 350 l/min rate of flow for the larger cannula)

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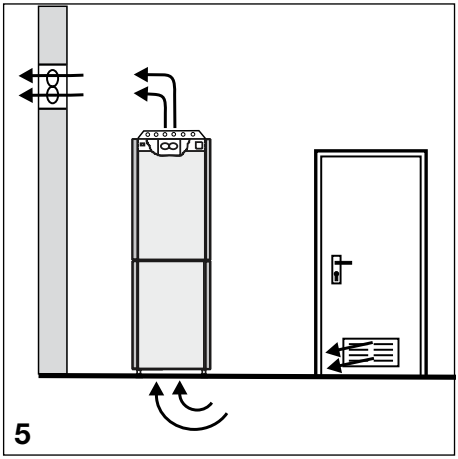
6.4 Amalgam separator

The amalgam separator is connected to the waste connections of the suction unit.
This serves to separate out and collect the heavy metal particles and amalgam dust drawn into the system arising from fillings etc.

6.5 Display

This PTS model type is fitted with a display which gives information on the various operating states such as tank pressure (10), humidity (11) and amalgam separator (12). Additionally the display can be used to carry out various operation steps.



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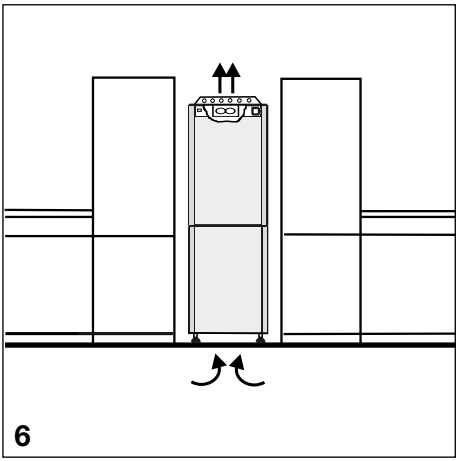

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Mounting

7. Storage and transport conditions

Due to the weight of the PTS 200 it is delivered in several parts and is sent out from the manufacturer in special transport packaging (cartons). This serves to protect the appliance from any damage during shipping.
The PTS must be transported in an upright condition.

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The PTS must be protected from dampness, dirt and extremes of temperature during transport and storage (see section Technical Data).

Danger of injury
The PTS must be under no pressure when transported. Before transport the pressure tank and the pressure hoses must be bled or vented.

8. Set-up and initial use

Only fully qualified personnel are allowed to set up this appliance, to install it or to carry out commissioning.

For reasons of noise and the observance of the regulations concerning medical products it is strongly recommended to install the PTS in a side room.
Installation in a purpose-built room, e.g. in a boiler room, must be checked with local building regulations. Installation in wet rooms is not permitted.

8.1 Ambient conditions

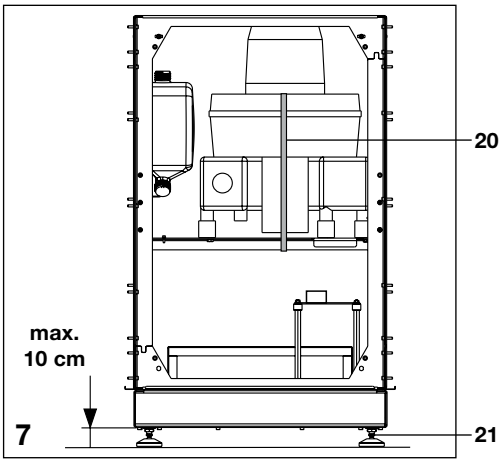
The unit may only be set up and operated in a dry, well-ventilated and dust-free room.
The PTS 200 must be set up so that it is easily accessible for both operation and maintenance.
The PTS must be set up on a flat surface (floor) and the surface must be sufficiently stable to support the unit. (Weight of PTS is ca. 301 kg, depending on model type)

In order to reduce the vibration effects there must be a distance of at least 2 cm between the Power Tower and any structure to the side (e.g. cupboard).

Both suction inlets and exhaust outlets of the PTS must be free.
Be careful to ensure that no objects are placed under, in front of, or on top of the PTS.

The room temperature may not fall below +10 °C and must not exceed + 40 °C, otherwise trouble-free operation of the PTS can not be guaranteed. For room temperature above +40 °C additional ventilation must be provided.
The ideal ambient temperature range lies between +10 °C and +25 °C.

Approximately 70% of the electrical energy consumed by the compressor unit is converted into heat and then given up to the outside environment.



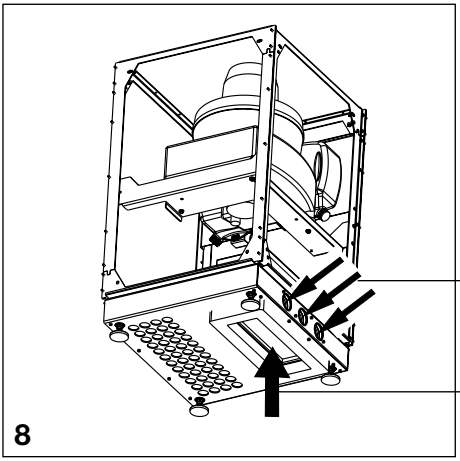
9. Set up and connection of suction module

9.1 Suction module set-up

- Unpack the suction module and place in the required location.
- Ensure the suction module is absolutely horizontal by adjusting the 4 adjustable foot screws (21). Tighten the counter screws (to avoid the feet from buckling).

The maximum height adjustment of the feet is 10 cm and maintain a minimum distance of at least 2 cm between the PTS to any side object (e.g. cupboard).

- Remove the transport safety strap (20).



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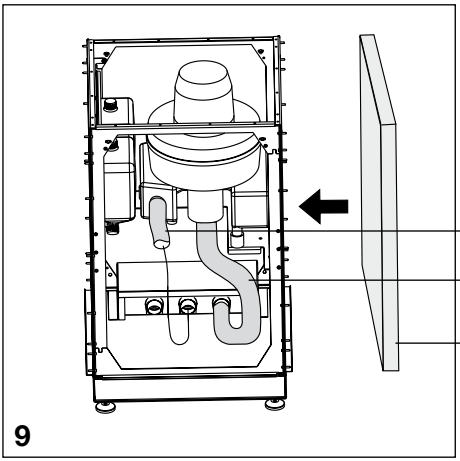

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9.2 Connect air, suction and waste water hoses to the floor connections of the PTS

On-site plumbing fittings see Planning Information 9000-617-03/..

- Connect the suction hose and the exhaust hose to the PTS connections DN 50 (22 or 23).

Danger of overheating and air contamination.
Dürr Dental strongly recommends that the warm and contaminated air be extracted outside the building.
In the event that the used air cannot be extracted outside the premises then an exhaust air bacterial filter must be installed.

- Feed the waste water hose, compressed air hose and cable through the openings (22 or 23) and place temporarily in the PTS.
  Cable: Power cable 400V / 230V
  control line 24V

9.3 Connect suction unit

- Connect the exhaust hose (24) od the suction unit to the floor connections of the PTS.
- Connect the vacuum hose / secretion hose (25) (depending on unit e.g: V 900 S / VS 900 S) to the (under) floor connections, see connection plans
- Hang both side and rear covers in place (26).

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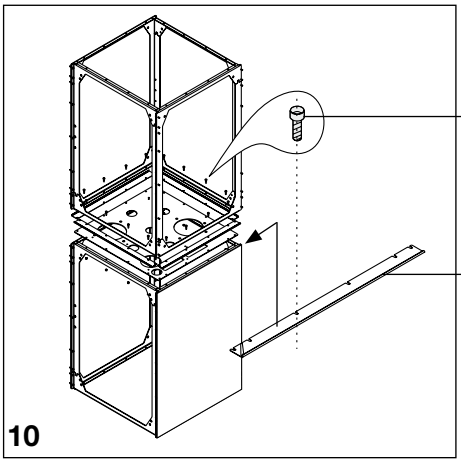

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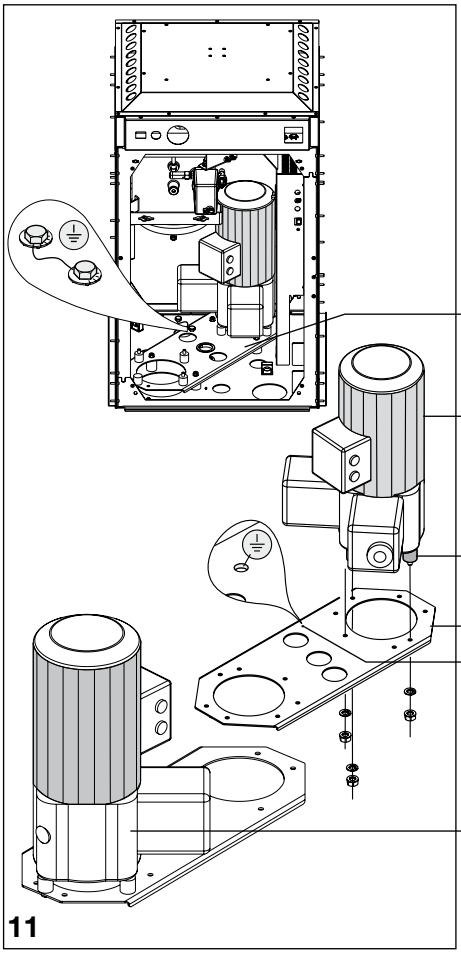

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10. Install compressed air module

- Remove the screws (30) holding the plate in the suction module in position.
- Place the compressed air module on top of the suction module.
- Slide the 4x brackets (31) (for the sound baffle plate) between the modules and connect them using the screws (30).

10.1 Install the compressor generator

Versions 400 V

– **PTS with 1 compressor unit, convertible to take 2 units.**

– **PTS with 2 compressor units.**

- Unscrew the retaining plate (35) and remove from the PTS.
- Screw the compressor unit (33) together with the vibration buffers (34) onto this plate.

Be careful to install in the correct position onto the retaining plate, see bore hole configuration for earthing (36).

- Position the plate (35) with unit already mounted into the PTS and screw tightly into place.
- Secure the cable to earth.

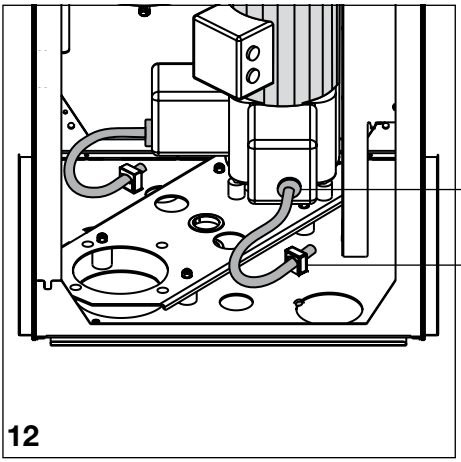
Version 230 V 1~ / Version 230 V 3~

– **PTS with only 1 compressor unit**

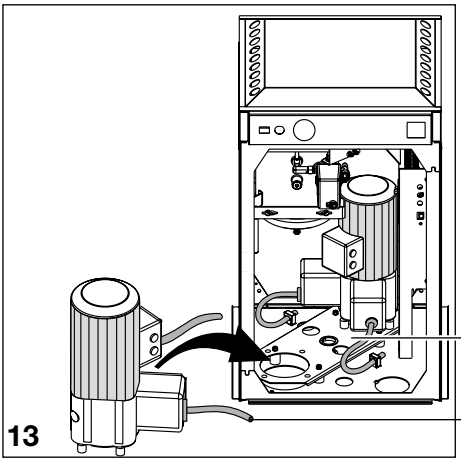
Observe correct placement of the motor unit (37). (generator to the front)

Disconnect the compressor generator from star (Y) and/or triangle (delta) connection.

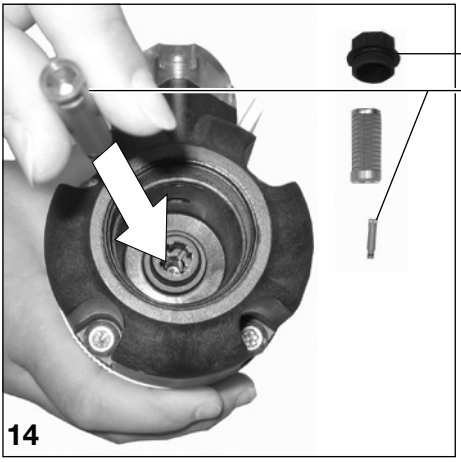
Also refer to the Installation instructions supplied with PTS 200 conversion of 400 V / 3~ to 230 V / 3~



- Place the noise reducers (38) onto the suction connections of the unit and fix in place using the securing clamps (40).



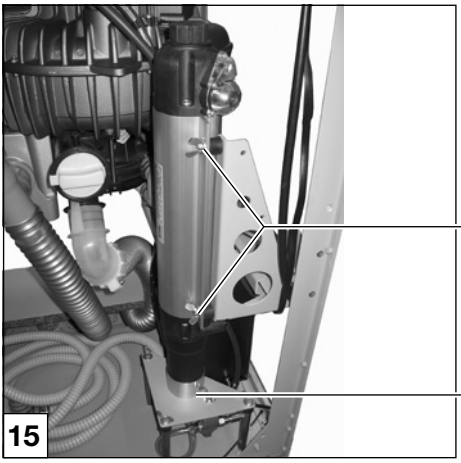
- Place the second generator to mounting plate (35) of PTS and secure.
- Place noise reducers (38) in position and fix.



10.2 Install drying unit

Choose the correct nozzle (43).
Blue = 1 compressor generator
Magenta = 2 compressor generators

- Insert the nozzle into the socket.
- Place the filter and filter cover (42) in position.



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- Insert the drying unit into the mounting (47) and secure with 2 butterfly nuts (44).
- Connect the compressed air hose from the cooling element into the drying unit.
- Connect the compressed air hose between the drying units and pressure tank.

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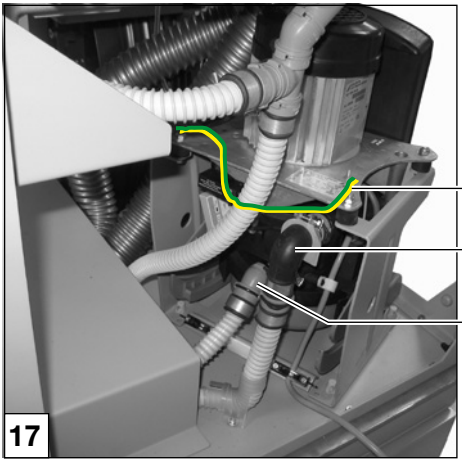
10.3 Install amalgam separator

The Amalgam Separator is only used in the PTS in combination with VS suction units.

- The platform plate (46) is fixed using 4 screws (45) to the amalgam separator.



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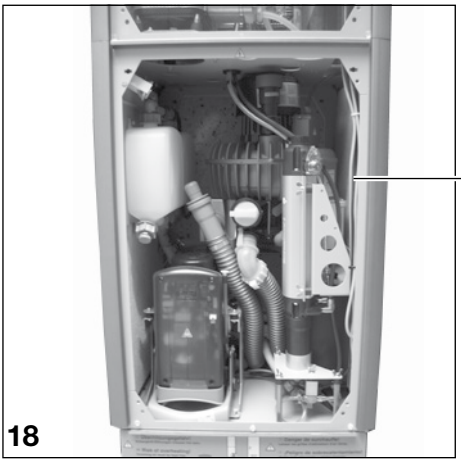
- Place the waste water connection from the surge tank onto the inlet connection (48) of the amalgam separator and secure.
- Slide the waste water hose (49) (building waste water system) onto the amalgam separator outlet point and secure.
- Screw the earth cable (54) leading from the amalgam separator firmly onto the suction unit console.

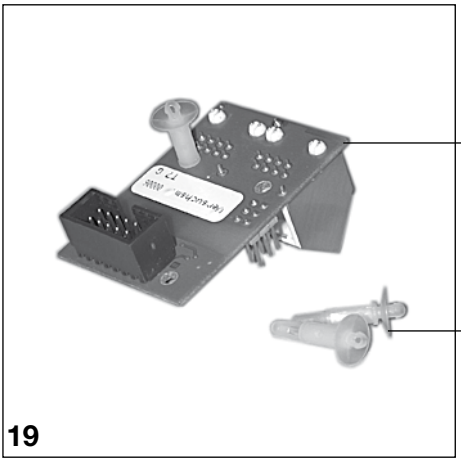


18

- Place the amalgam separator into the PTS, observe correct placement.

  1) The hose must be aligned correctly (49),

  2) The amalgam recycling box must be easily accessible for replacement.



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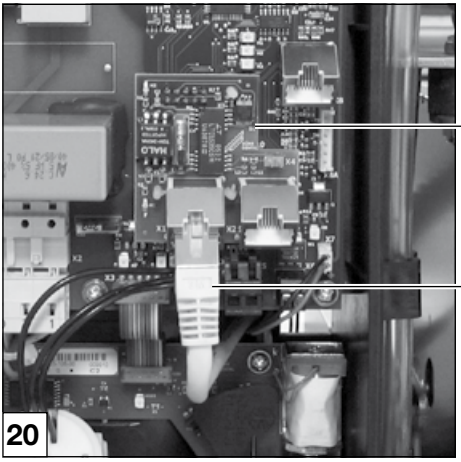
10.4 Install and connect BUS-adapter

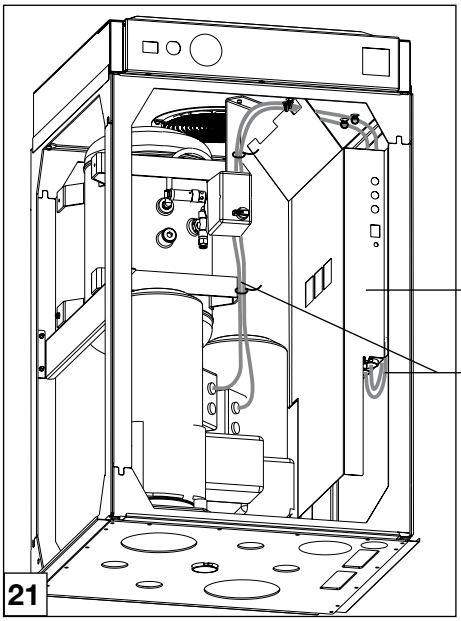
Only for PTS with display

- Open the cover to the electronics of the amalgam separator.
- Place 3 spacers (15) onto the BUS-adapter (16).



20

- Connect the BUS-adapter (16) to connection X9 of the amalgam separator electronic circuit board.
- Feed the network line (17) through the amalgam separator housing and connect to one of the two BUS-adapter network sockets.
- Feed the Network line to the PTS control PCB and connect to terminal X31.



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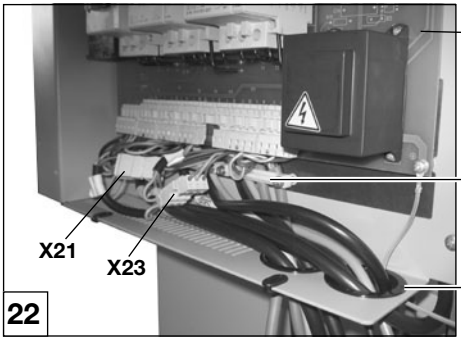

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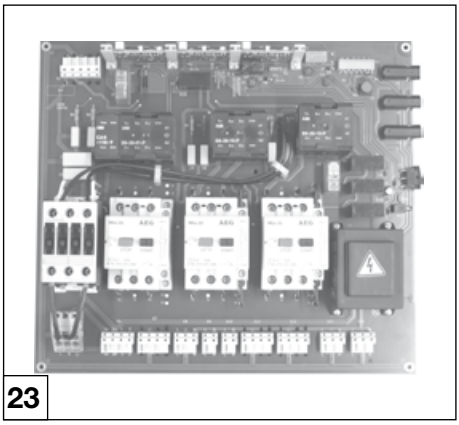

23

11. PTS electrical connections

Ensure all electrical connections are carried out observing the technical regulations concerning the set up of low voltage sysyems in medical practices.

- Before operating the supply voltage, check the voltage information on the model idenfitication plate.
- For the electrical connection to the mains power supply then the circuit must be fitted with an all pole disconnect switch (all-pole switch or all-pole breaker for line protection (fuse)) with >3 mm contact opening width.
- The PTS must be connected using a fixed mains power supply line to the mains power supply.
- Circuit breakers: Fusing LS- switch 16 A with C or D characteristics according to EN 60898

This fuse must not be used for additional devices, as the max. current consumption will then be exceeded.

Electric shock due to cable insulation damage

- Electric shock Do not allow electrical cables to twist or bend.
- Lay all electrical cables carefully and secure using cable ties

Lay the prepared cable in the PTS, fix in position and connect to the control PCB (50), refer to sections on electrical connections and circuit diagrams.

External cables

– Power Supply (X13)

– Hose manifold control contact (X4, 1 and 3)

– 24 V protective low voltage (X4, 1 and 2)

Internal cables

These can vary according to PTS model.

– Suction unit (X7)

– Amalgam separator
230 V (X8)
24 V Start signal (X4 terminals 2 and 3 and amalgam separator X5)

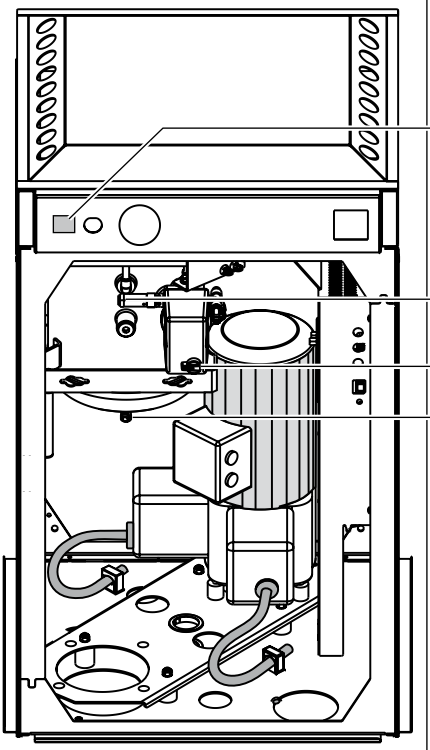
– Compressor generator (X11 and X12)
Lay the compressor generator connecting cable (51) and secure against movement

using a cable tie.
Lead the cable from below (51) into the control unit and connect to the contacts (X11 and X12) on the PCB.
For PTS units with a display panel the connecting cable needs to be fed from above into the control unit and then connected

– Drying units ventilation fan (M5) and relief valve (Y1).
Depending on the model of PTS these are either connected to X1 with an adapter cable or directly connected to X21 and X23.
Feed the cable through the conduit (53), secure with cable tie and strain relief (52).

Only for model PTS 200/03 / (230 V 3~ Version)

Fault
Do not connect Power Supply N.



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12. Start-up

Carry out an electrical safety check before start-up and initial use

- Close the cover to the control unit and attach the connection to ground.
- Mains fusing "ON
- The black start switch must be in the down position for the motor protection switch of the control PCB (50).
- Set the button (62) of the pressure switch to "I Auto".

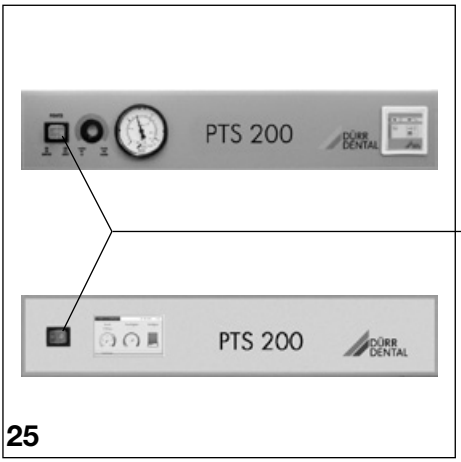
The PTS with display has no such switch. The pressure sensor is to be found on the control PCB.

- Operate the main switch (a), the compressor starts up and then switches off at c. 7.5 bar.
- Open the condensate tap (60) and drain off the condensation present.
- Check the safety valve.

When carrying out this test the tank must be under pressure (maximum 7.5 bar).

- Open the screw (61) of the safety valve until the valve vents. Allow the safety valve to vent only briefly and then close the screw again. The valve must now be in its closed position.

Danger of damage
Do not use the safety valve in order to vent the pressure tank.
The safety valve has been factory set at 10 bar, checked and approved (with stamp). It must not be tampered with.



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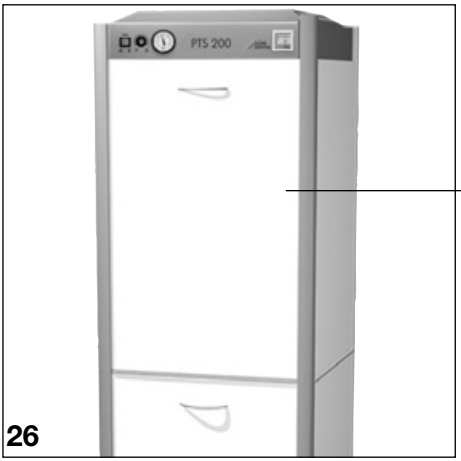

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- Activate the suction unit by removing a suction hose from the hose manifold or by operating the rinsing phase of the spittoon (spittoon valve, "Wet Suction System").
- Carry out a function check and test all connections for leaks etc.

Check AC suction units for correct direction of rotation.

- Switch off the suction unit, either by replacing a suction hose into the hose manifold or by switching the spittoon rinsing off.

VS-Suction units run for approx. 30 seconds after switching off. Simultaneous signals to start from both the suction unit and the compressors, cause the compressors to begin after a slight delay after the suction unit starts up.

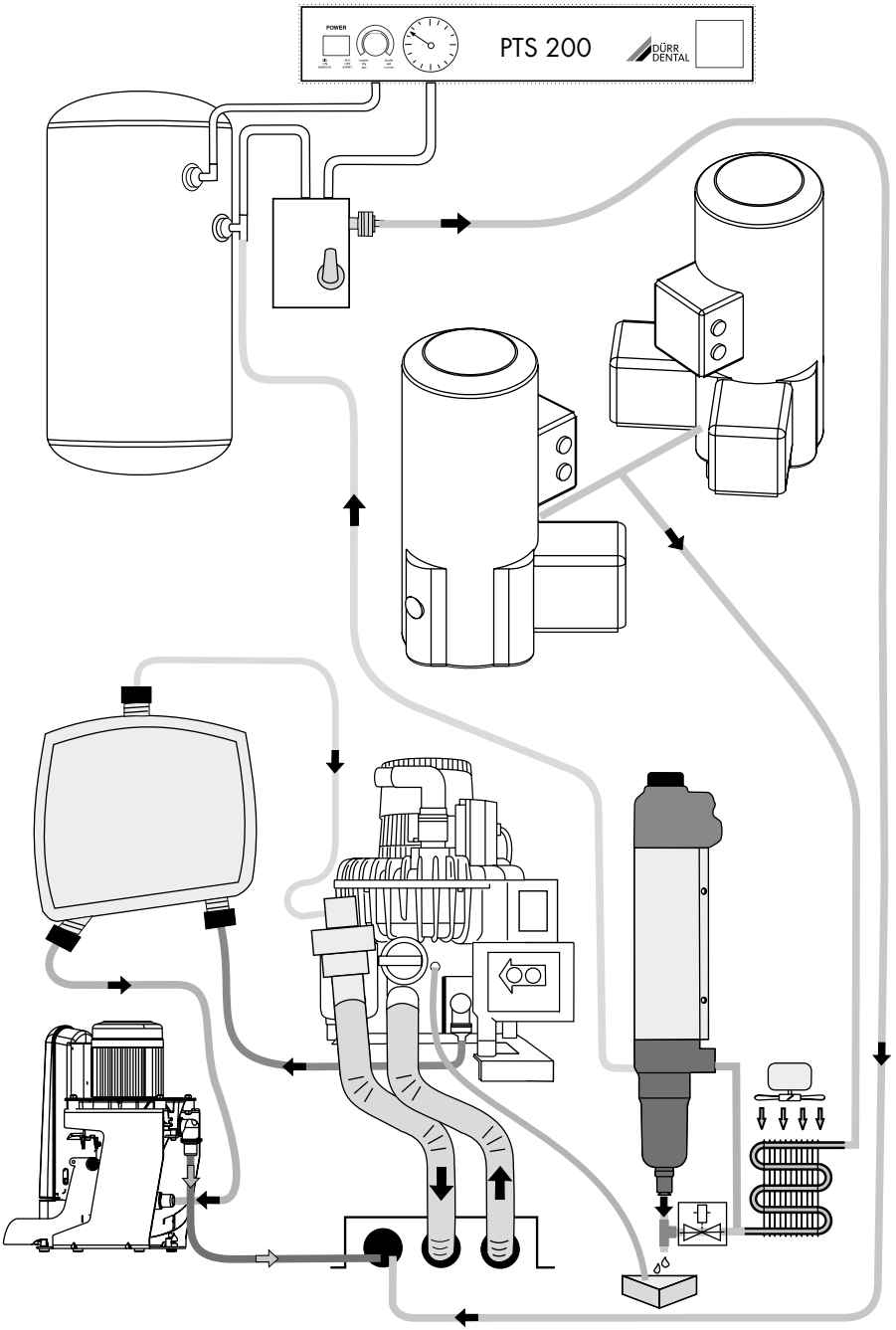
- Hang all panels (26) of the PTS 200 into place.

Danger of overheating
The PTS must be closed once all panels are in position. This serves to provide sufficient ventilation in the PTS.

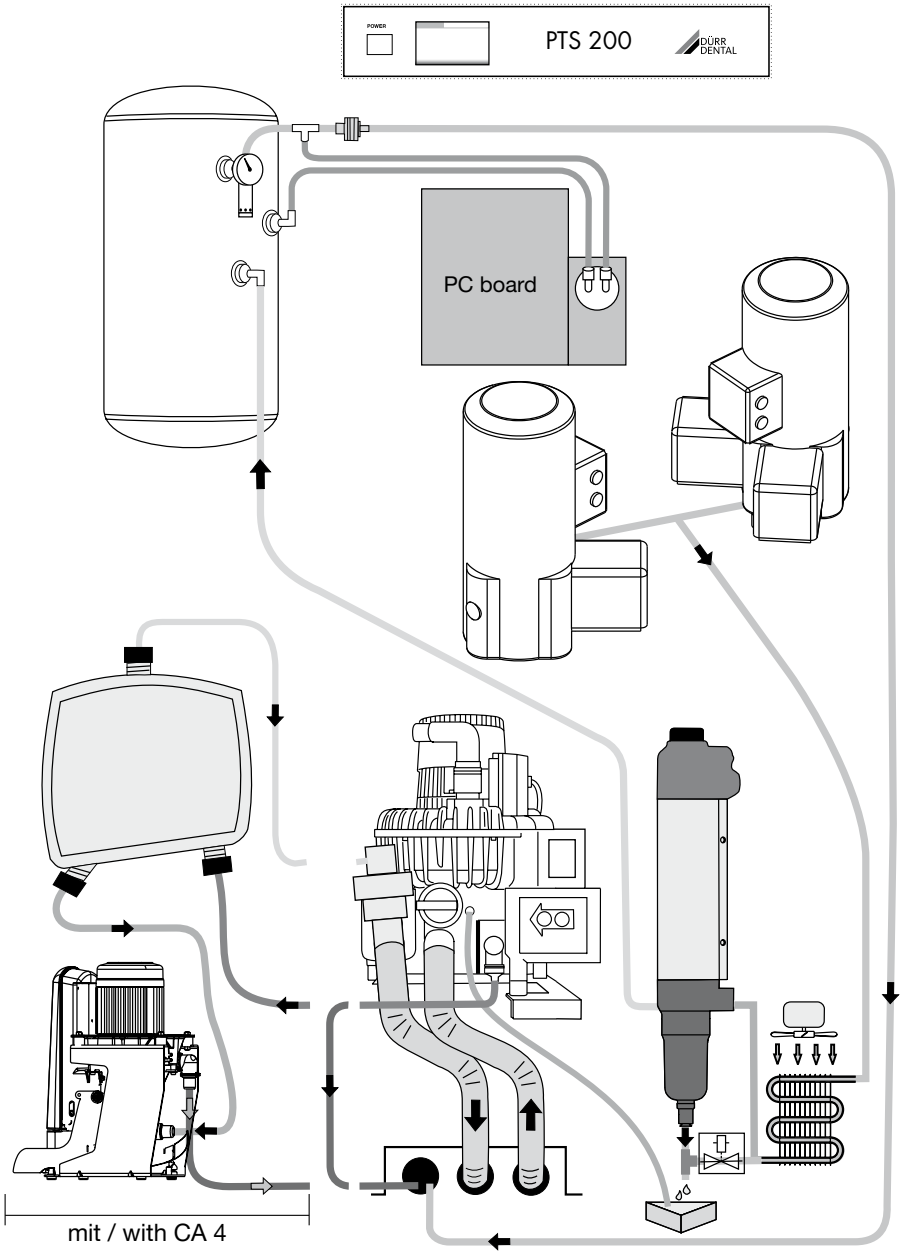
EN

13. Connection media plan

13.1 Set up with VS-units



13.2 Set up with a display



13.3 Set up with V-units

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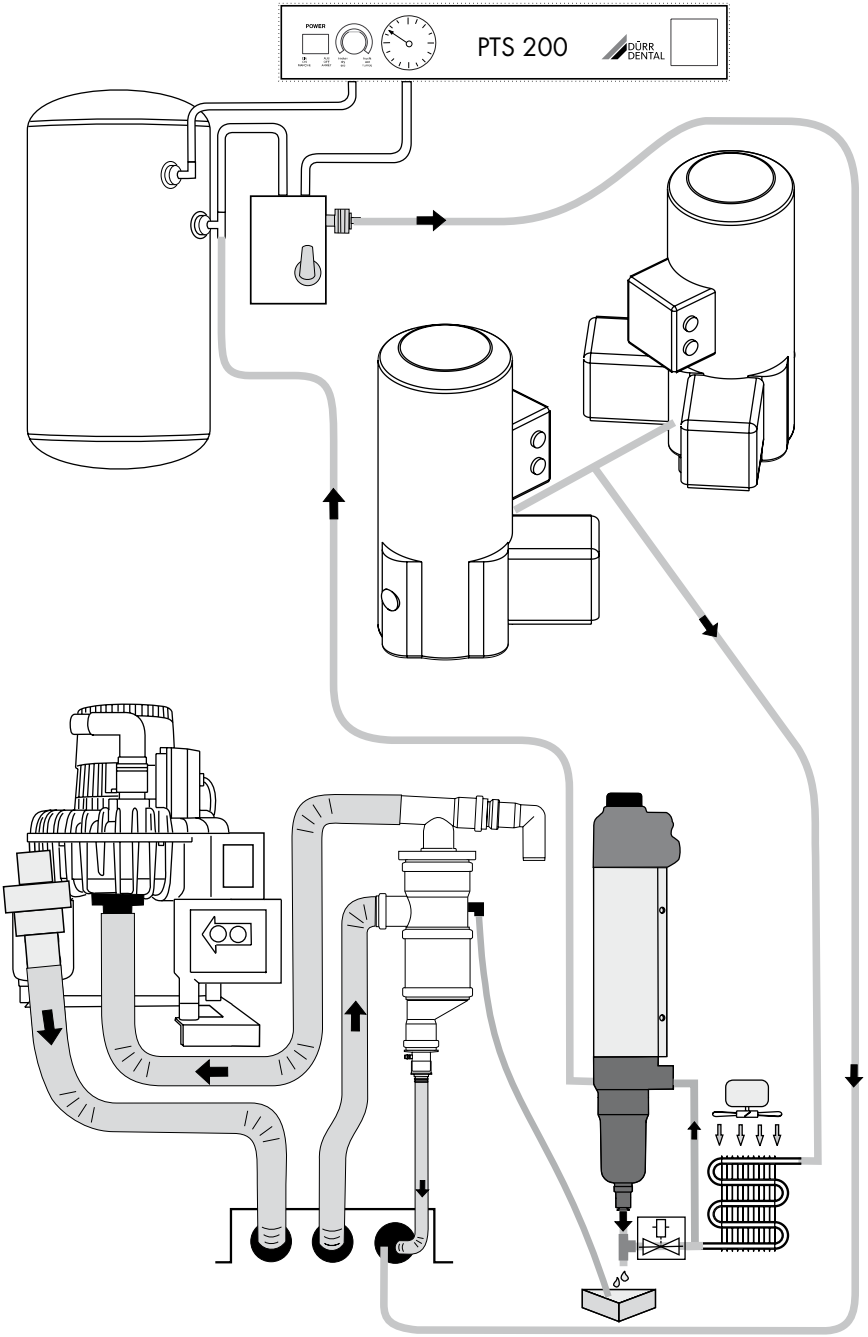
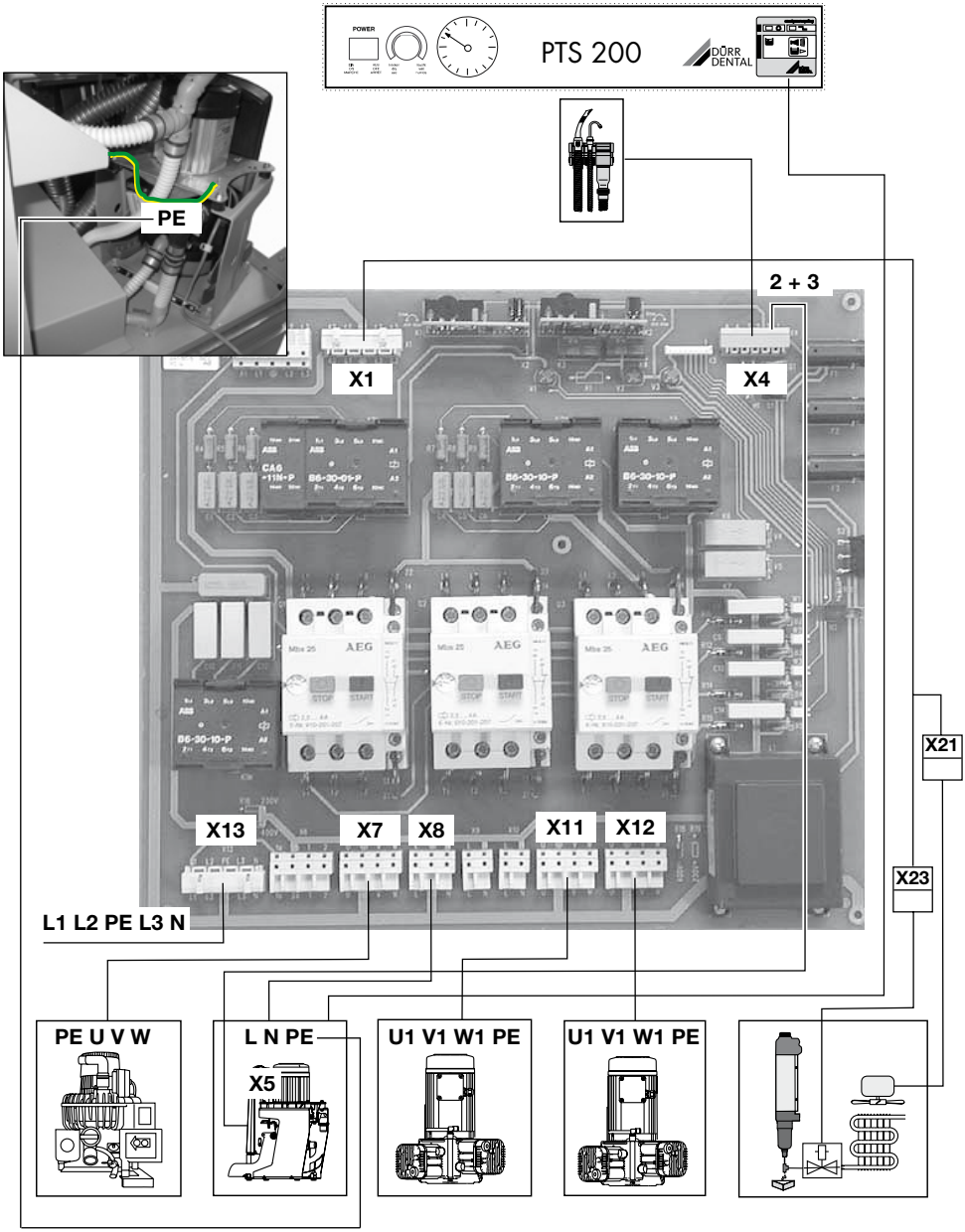
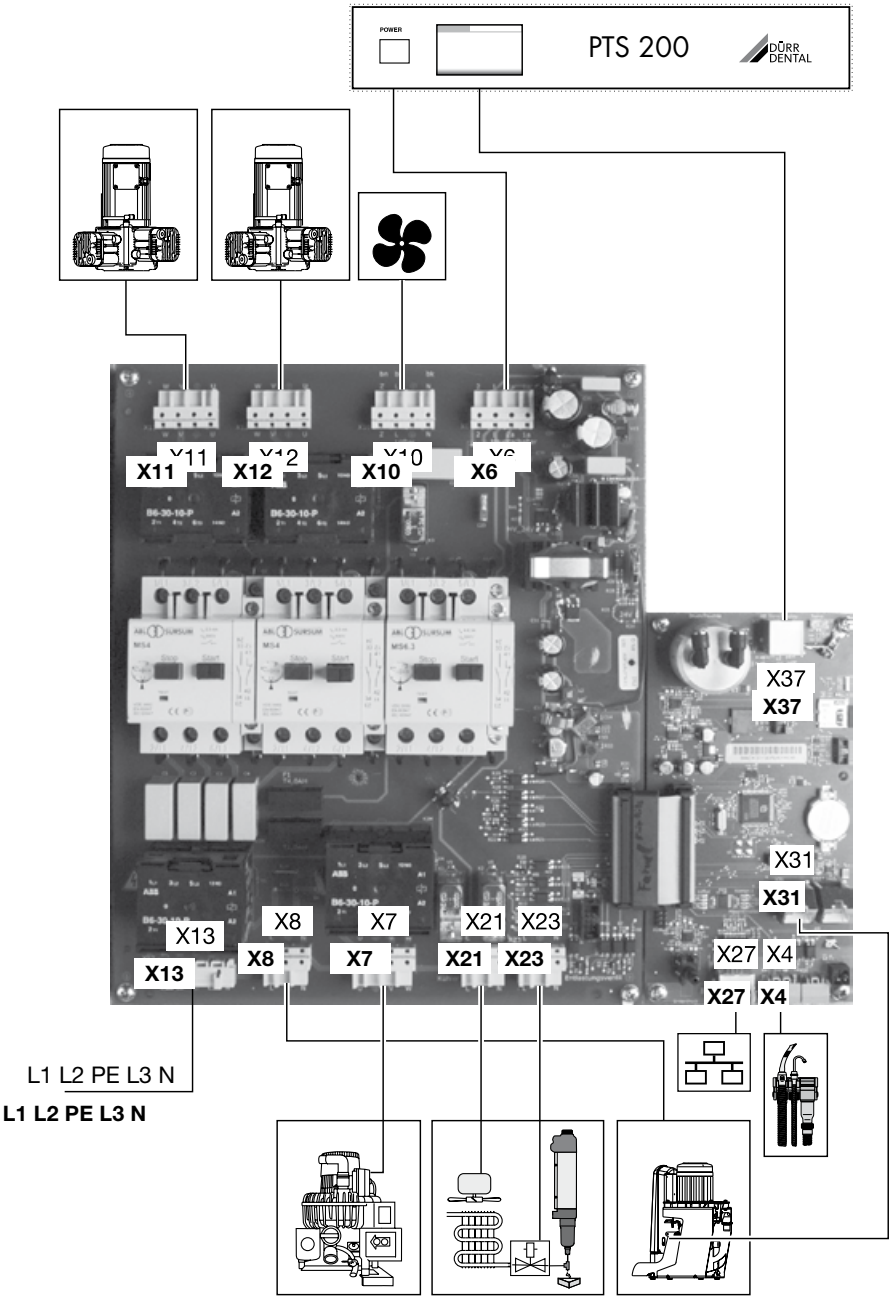


14. Circuit diagrams

14.1 Model type 400 V 3~

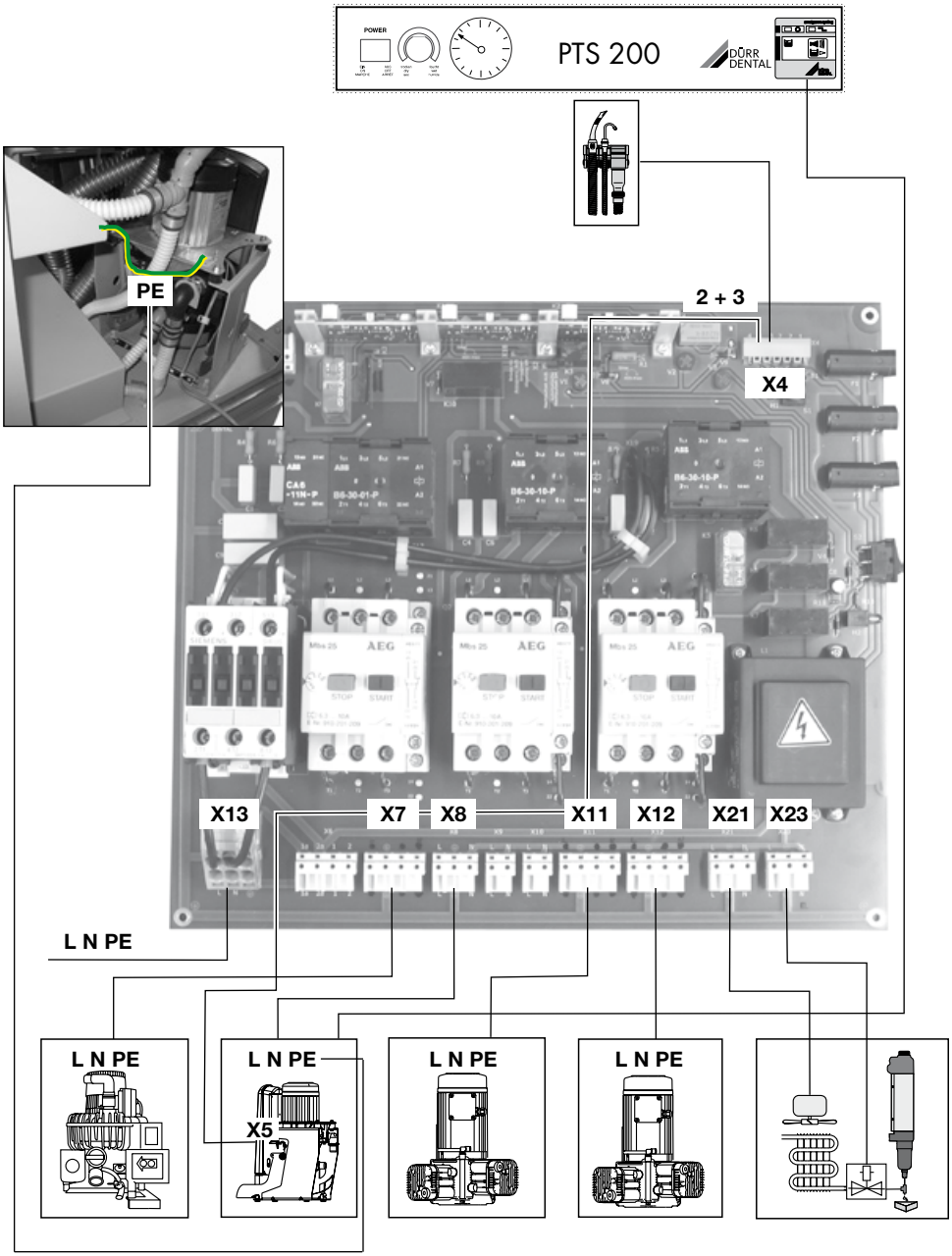


14.2 Model type 400 V, 3~ with display



14.3 Model type 230 V, 1~, 2 generators

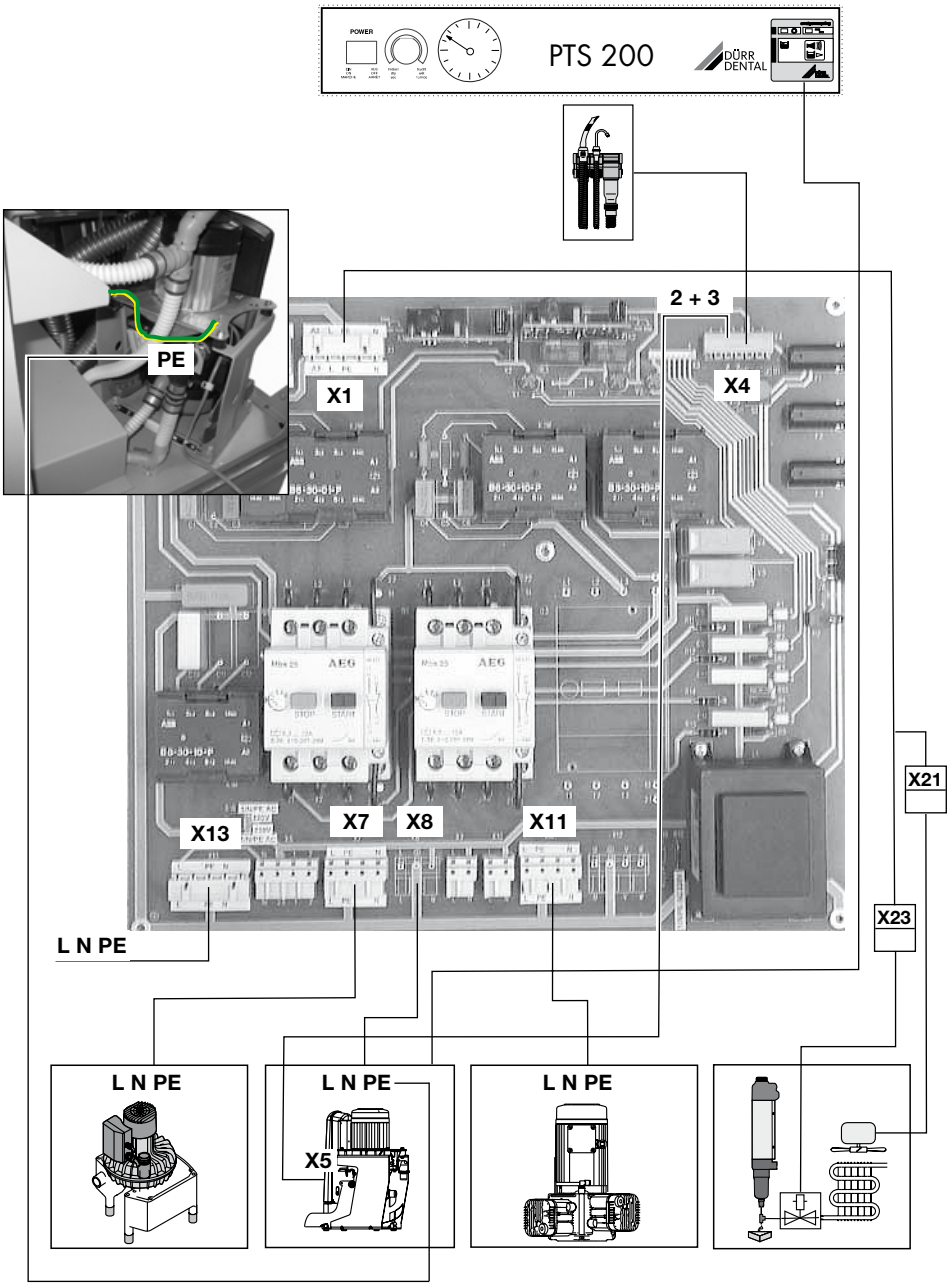
Circuit breakers
Fusing LS- switch 25 A with C or D characteristics according to EN 60898



EN

14.4 Model type 230 V 1~

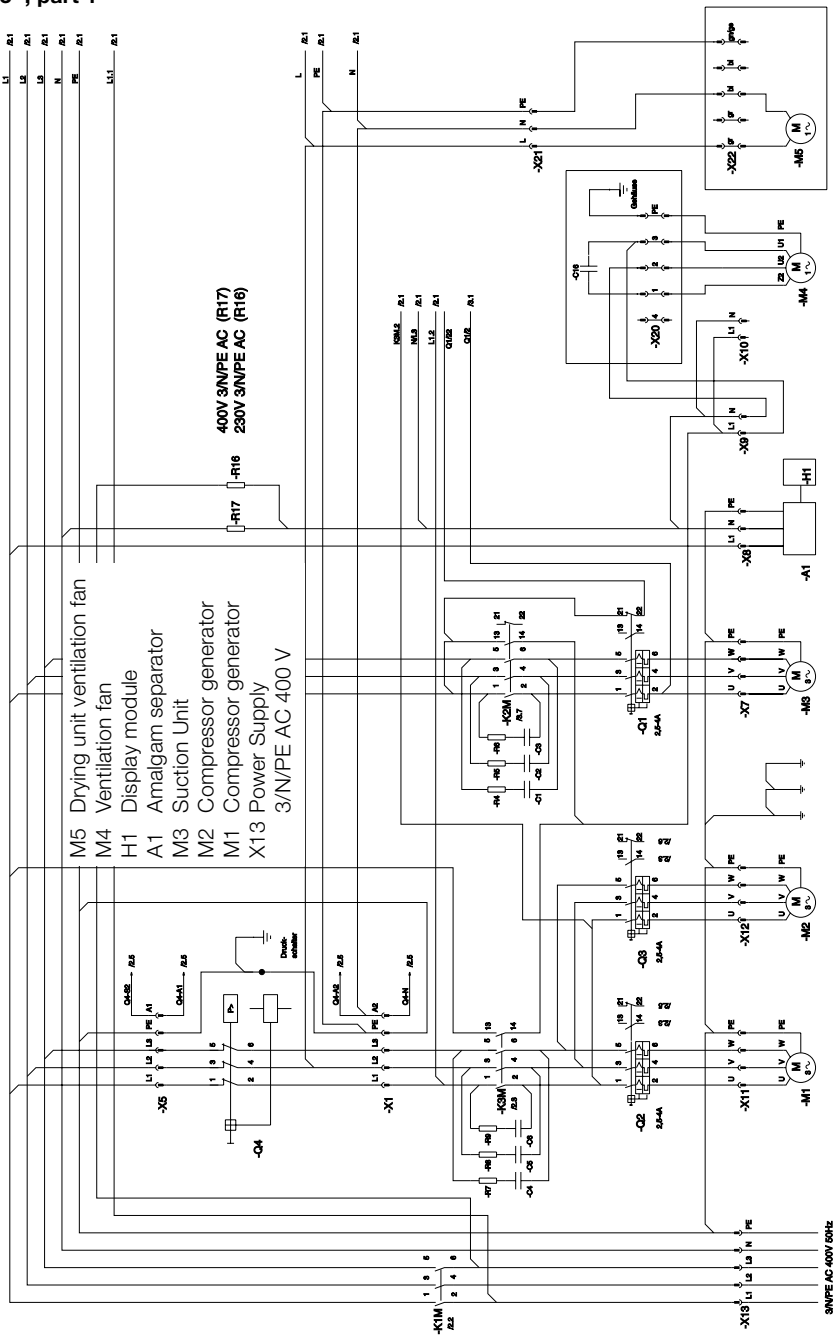
EN



15. Circuit diagrams

15.1 Model type 400V 3~, parts 1-4

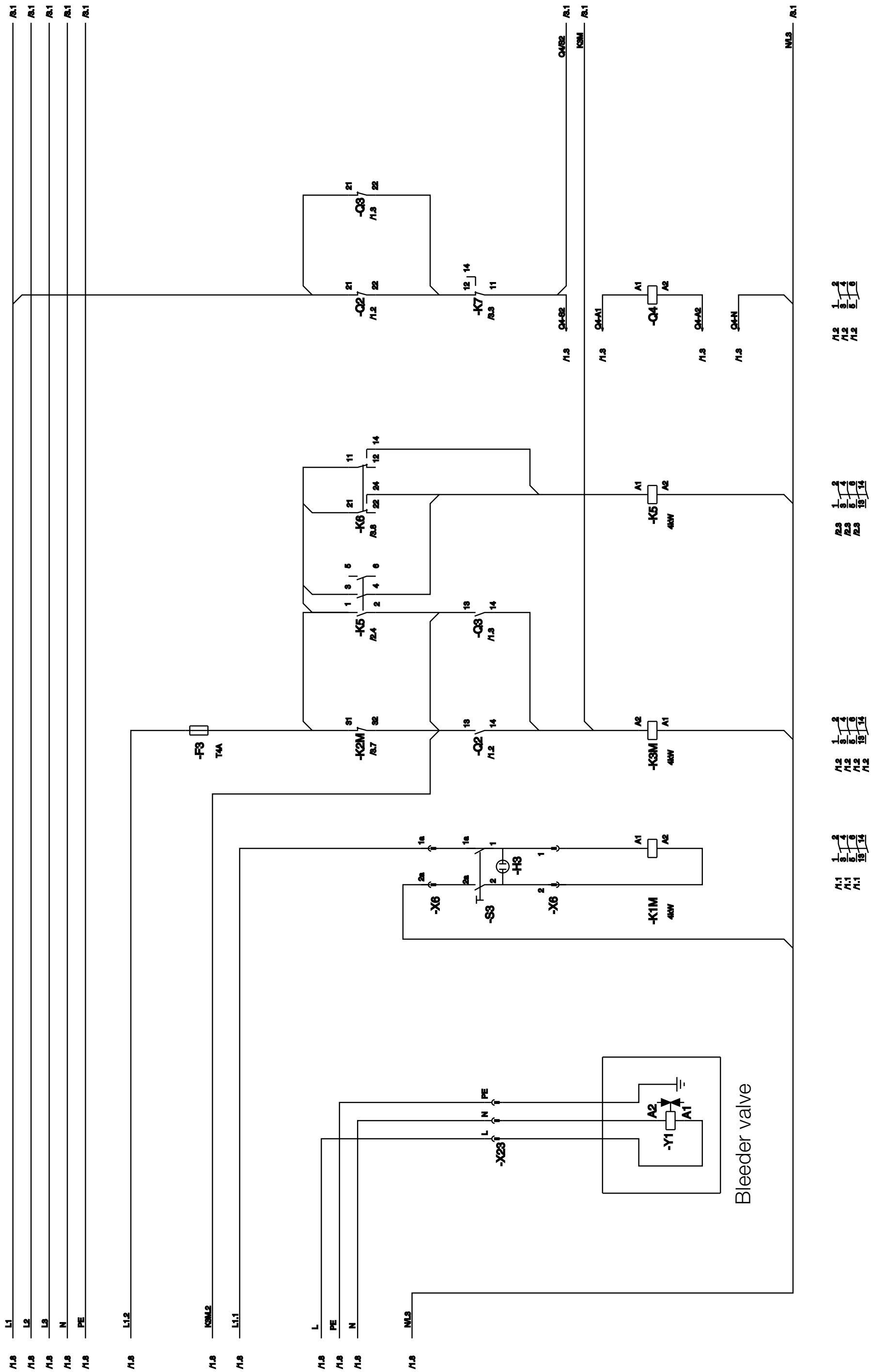
400 V, 3~, part 1



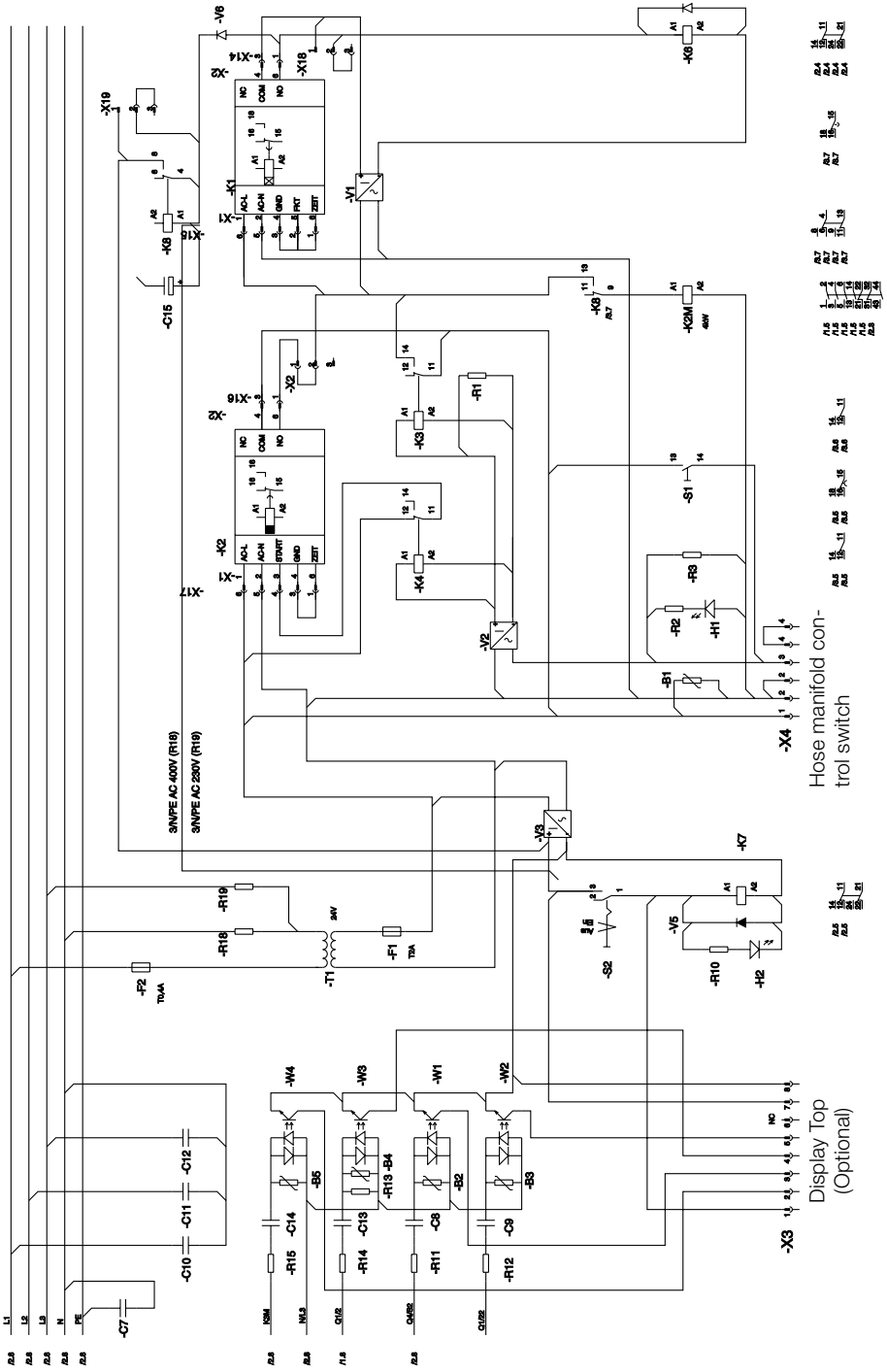
EN

400 V, 3~, part 2

EN



400 V, 3~, part 3



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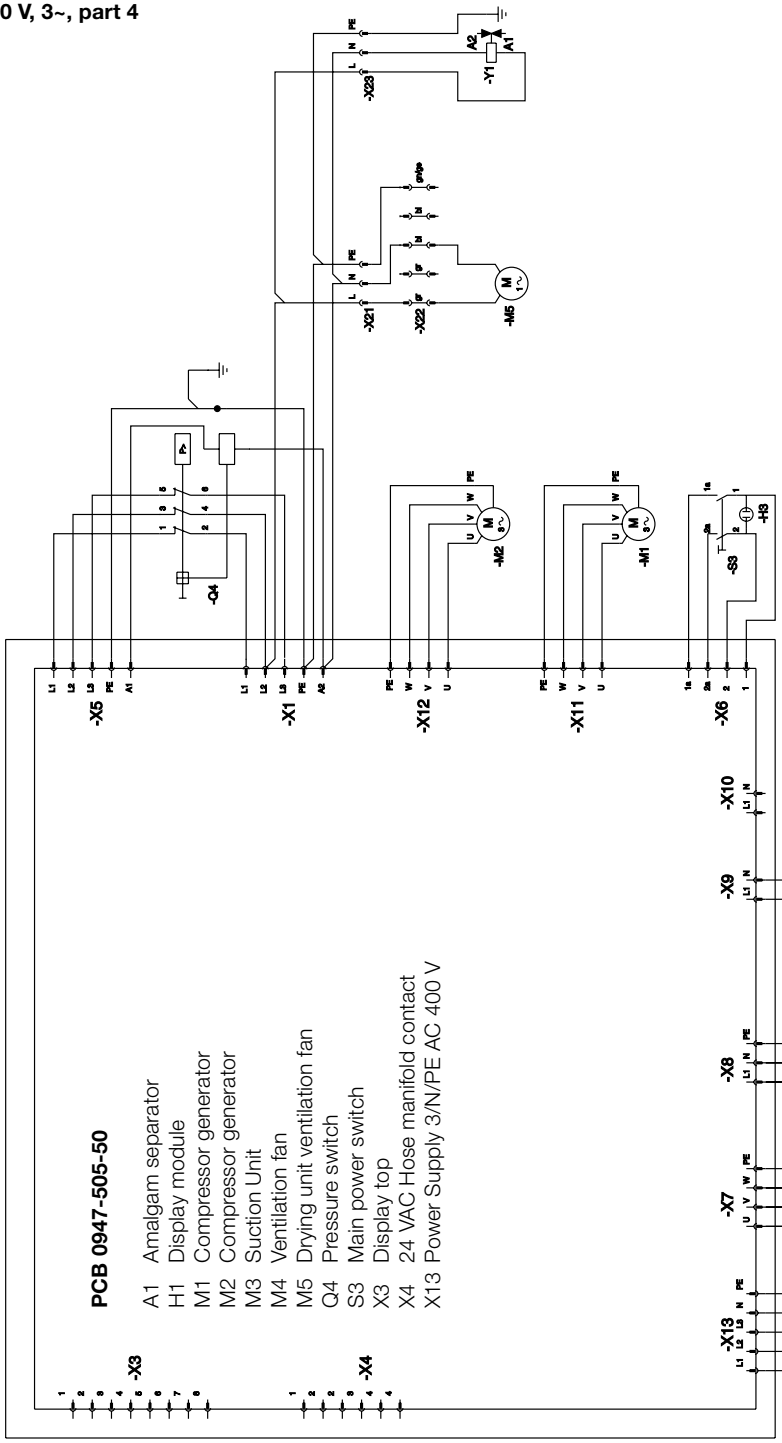
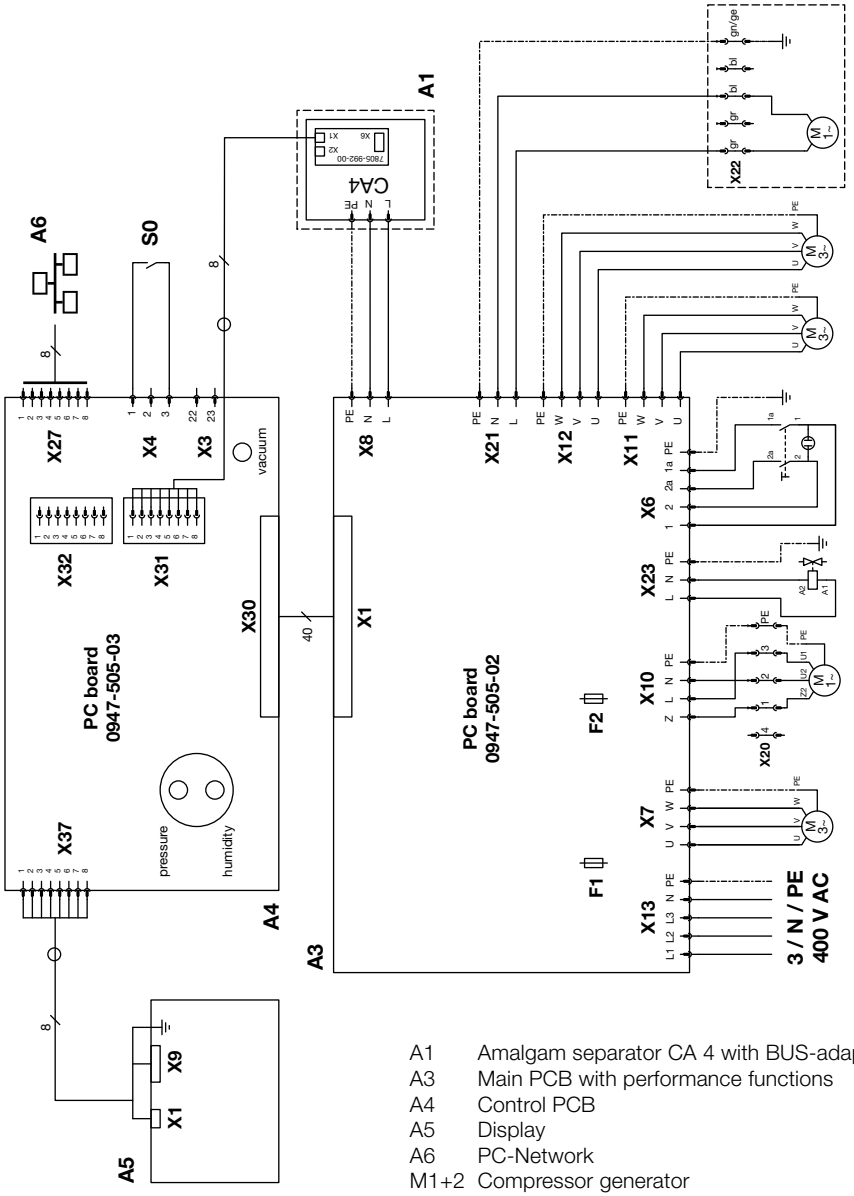
400 V, 3~, part 4


PCB 0947-505-50
A1 Amalgam separator
H1 Display module
M1 Compressor generator
M2 Compressor generator
M3 Suction Unit
M4 Ventilation fan
M5 Drying unit ventilation fan
Q4 Pressure switch
S3 Main power switch
X3 Display top
X4 24 VAC Hose manifold contact
X13 Power Supply 3/N/PE AC 400 V
-X5
-X1
-X12
-X11
-X6
-X10
-X9
-X8
-X7
-X13
-X3
-X4
-X23
-X21
-X22
-X20
-Y1
-M5
-M2
-M1
-S3
-H3
-Q4
-C16
-M4
-H1
-A1
-M3

15.2 Model type 400 V, 3~ with display

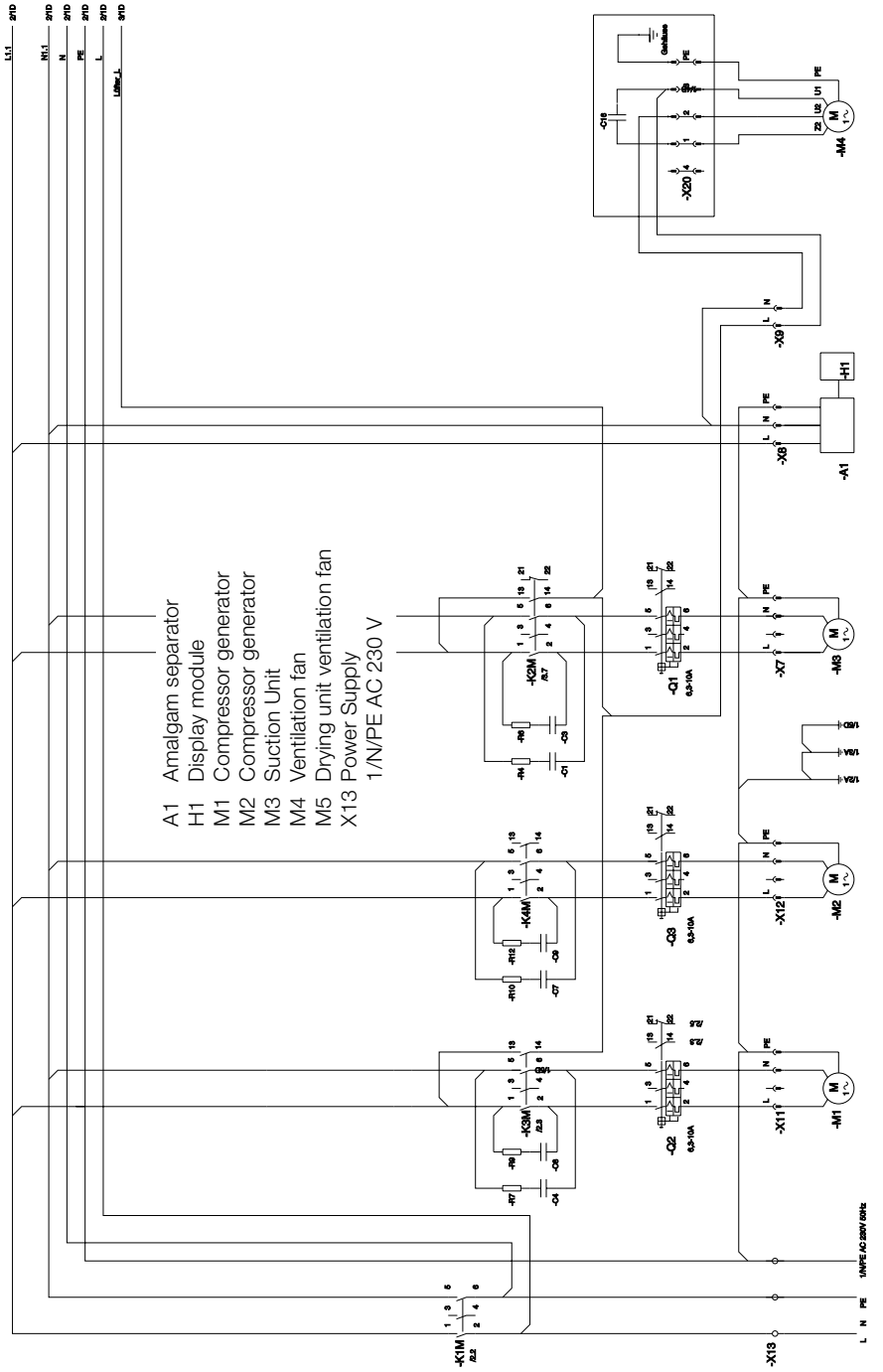


A1 Amalgam separator CA 4 with BUS-adapter
A3 Main PCB with performance functions
A4 Control PCB
A5 Display
A6 PC-Network
M1+2 Compressor generator
M3 Suction Unit
M4 Ventilation fan
M5 Cooling element
S0 Control contact to suction unit
S3/H3 Main power switch
Y1 Bleeder valve

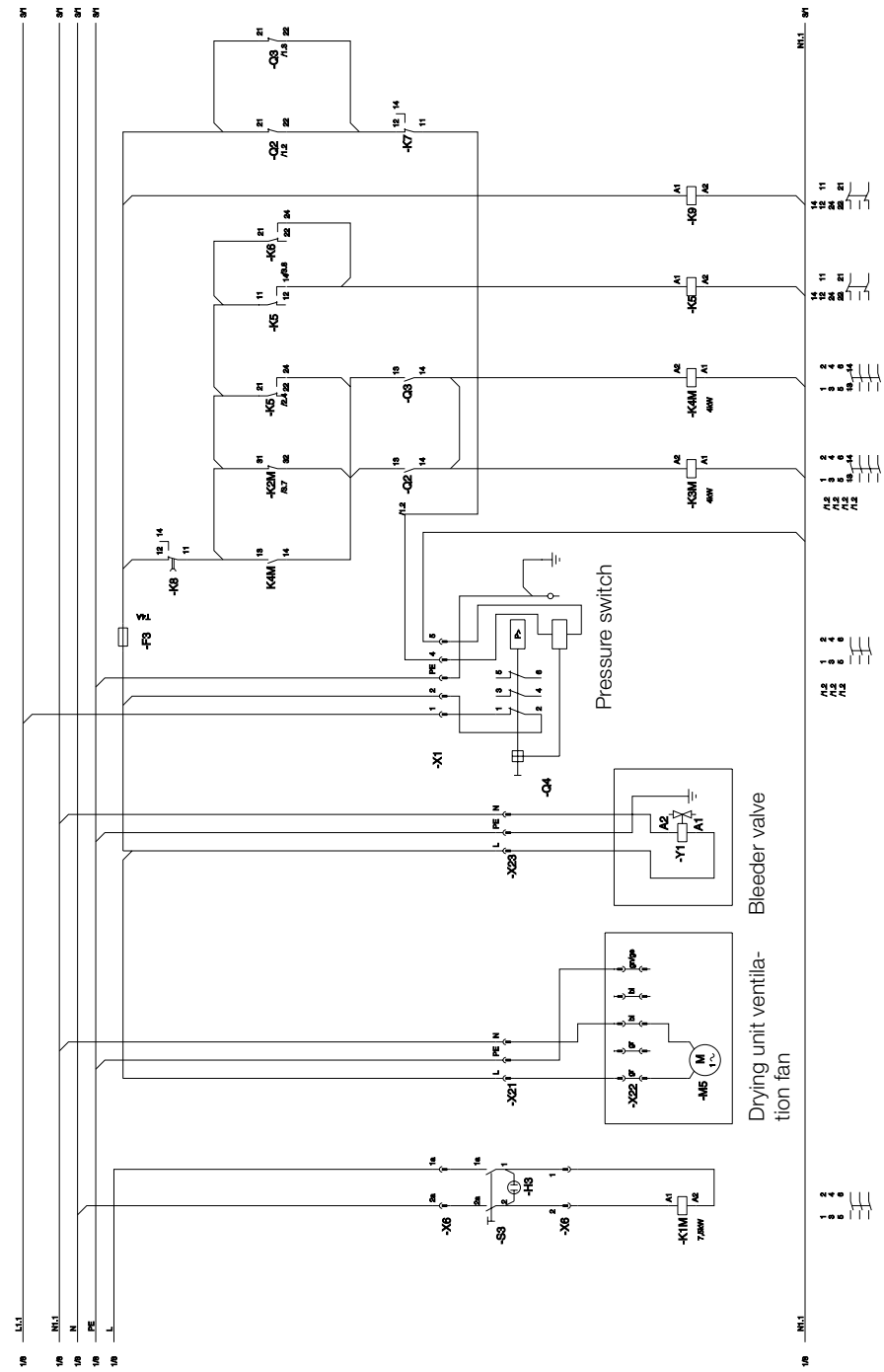
EN

15.3 Model type 230 V 1~, 2 aggregates, parts 1-4

230 V, 1~, part 1



Model type 230V 1~, 2 aggregates, part 2



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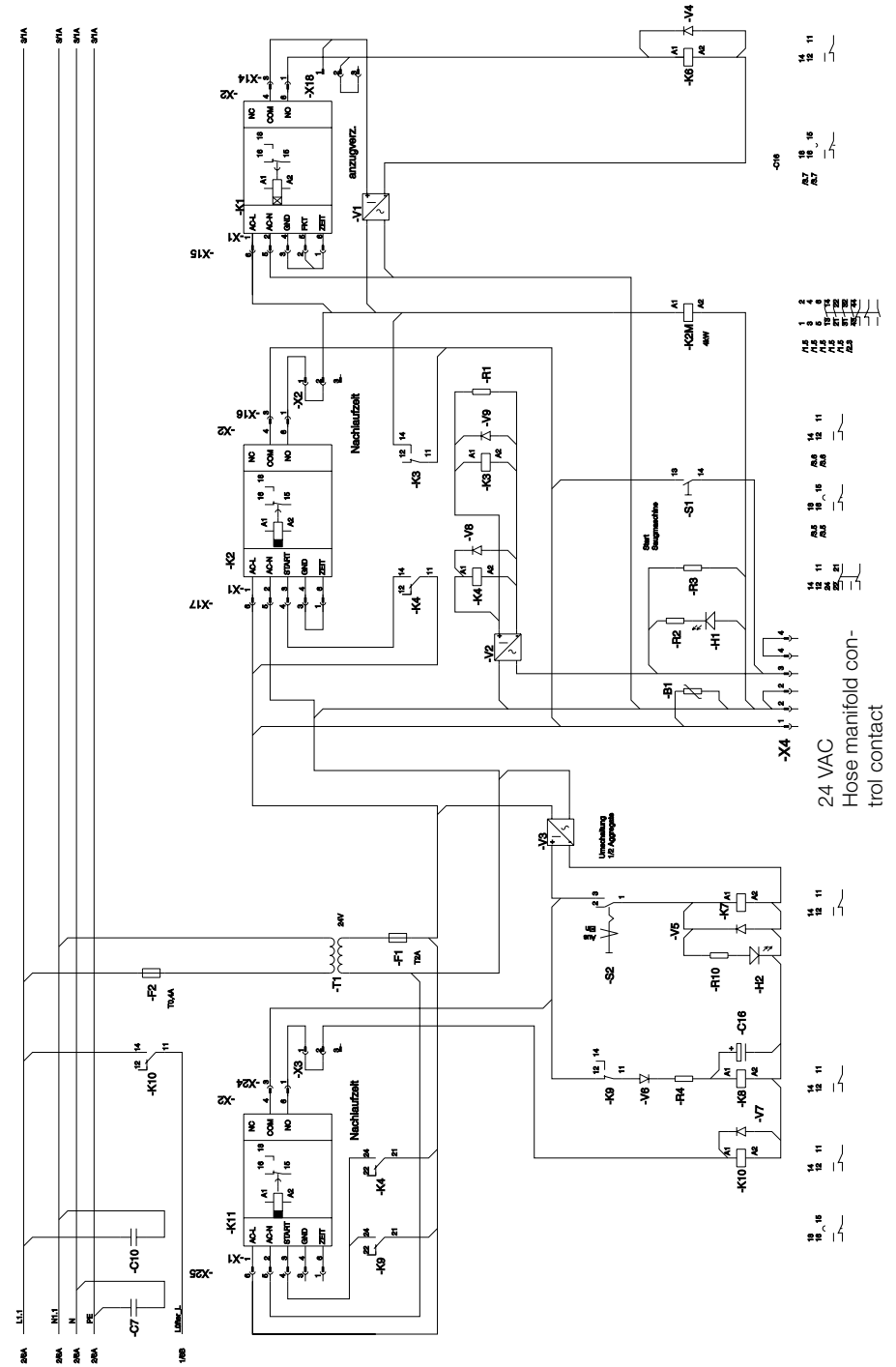
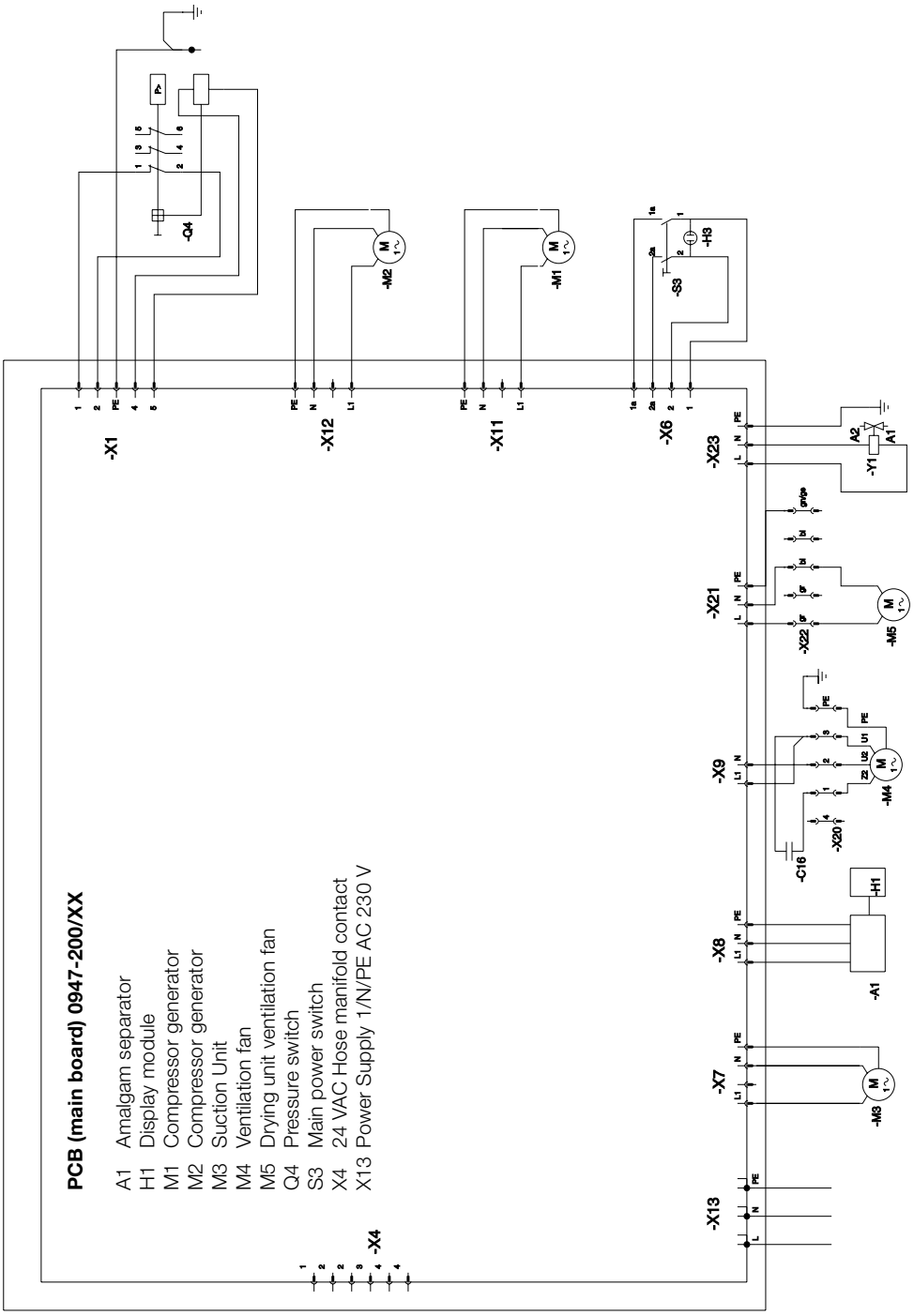
Model type 230V 1~, 2 aggregates, part 3



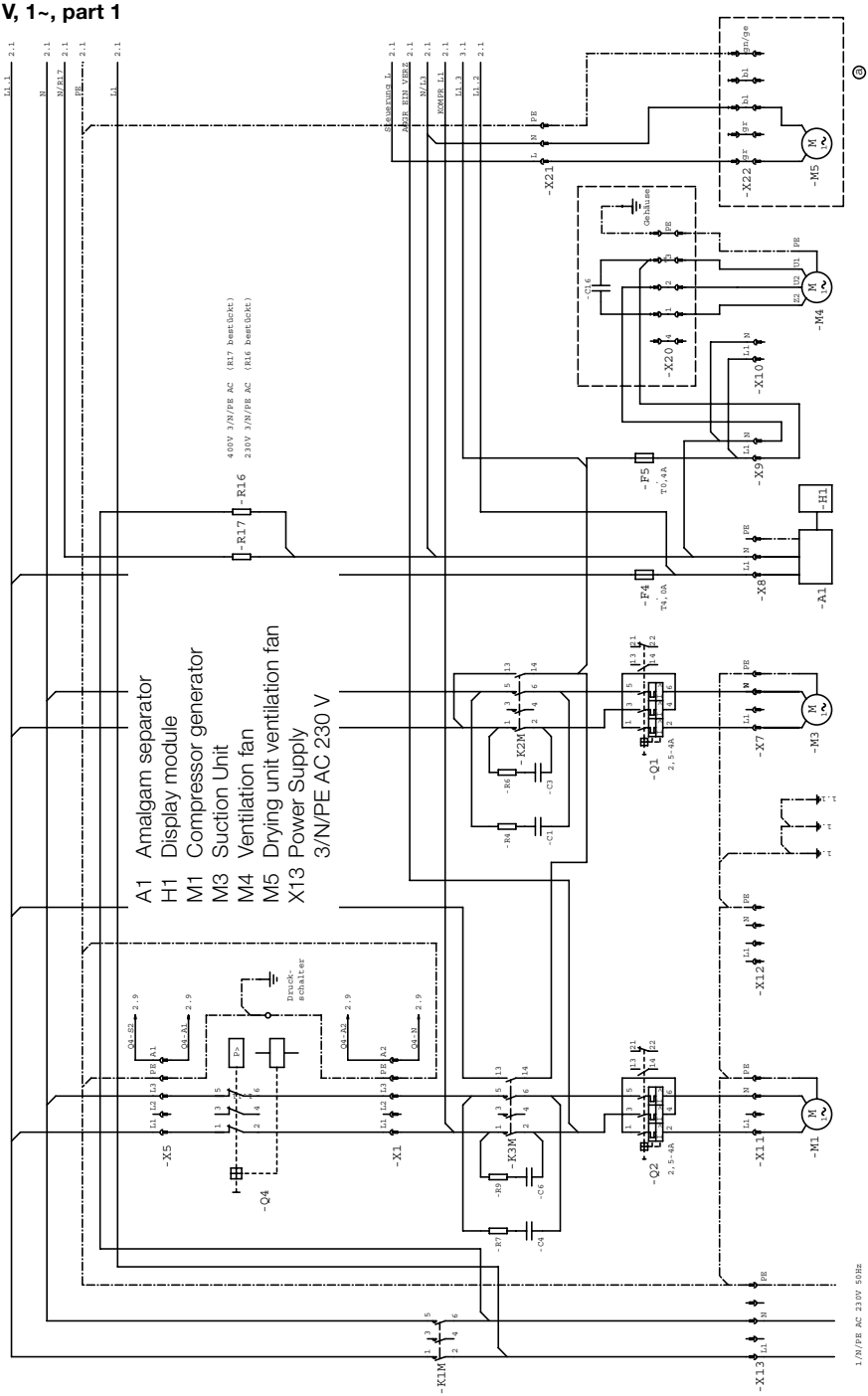
Model type 230V 1~, 2 aggregates, part 4



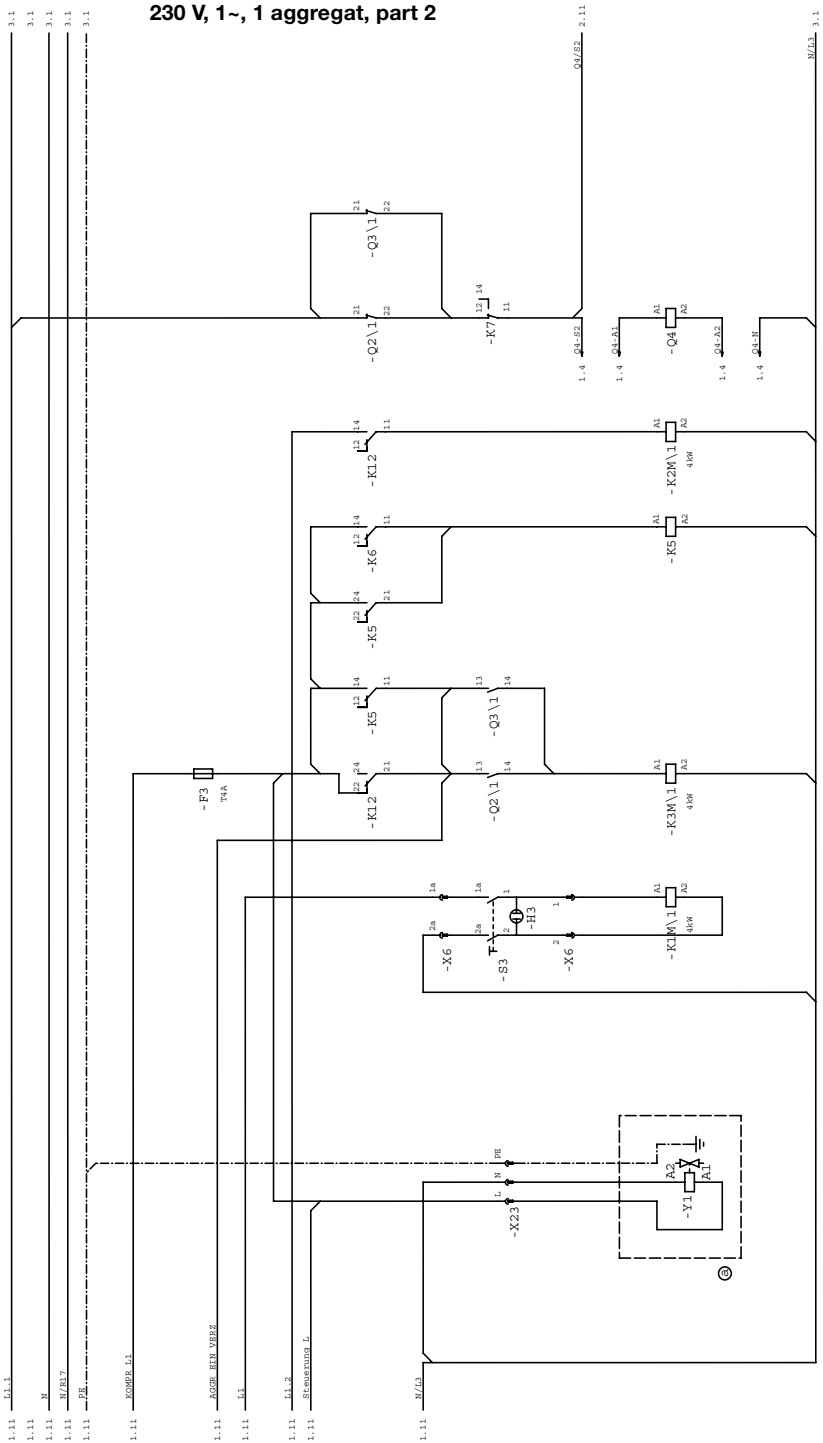
EN

15.4 Model type 230V 1~, 1 aggregat parts 1-4

230 V, 1~, part 1



230 V, 1~, 1 aggregat, part 2



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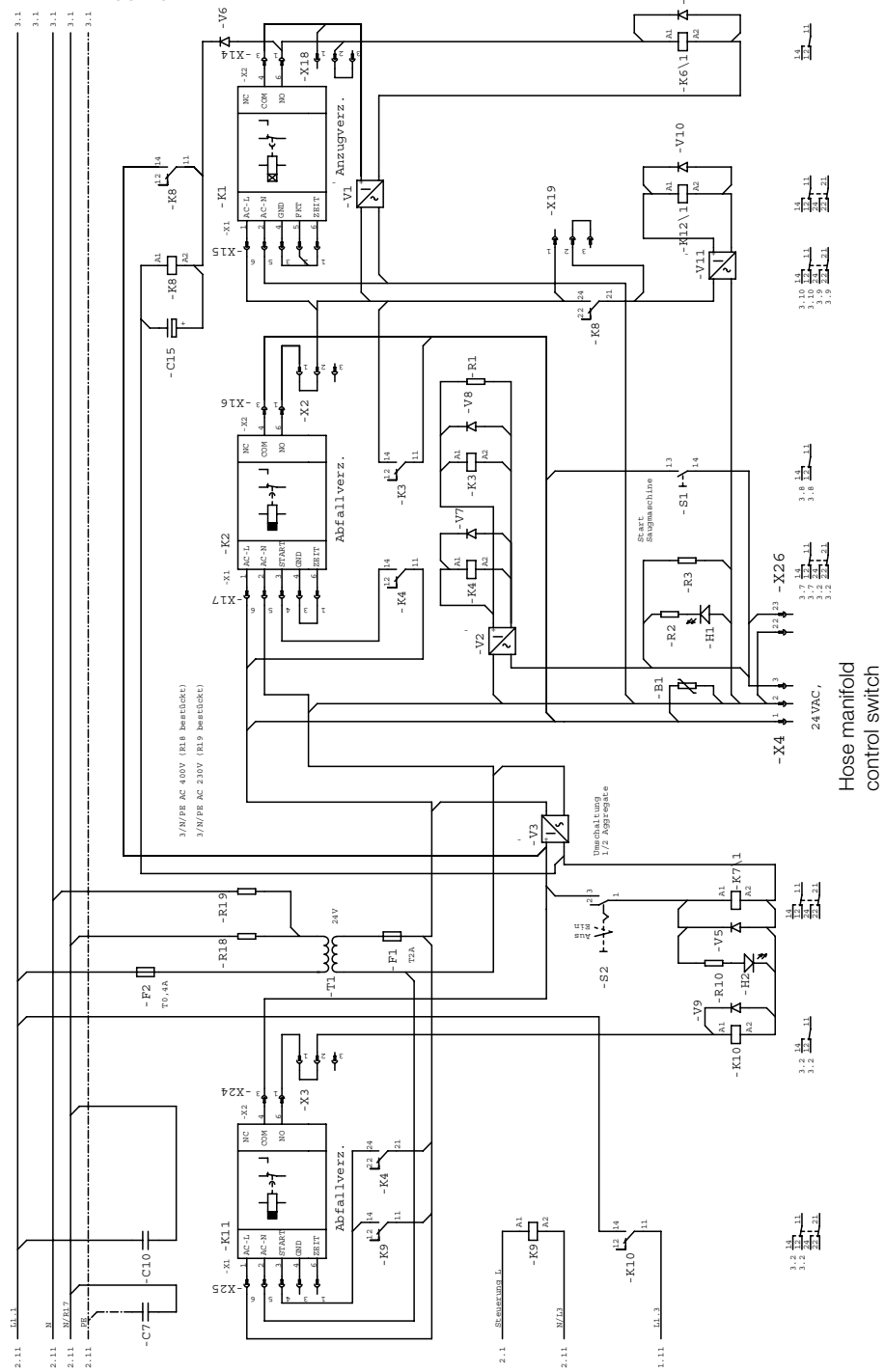
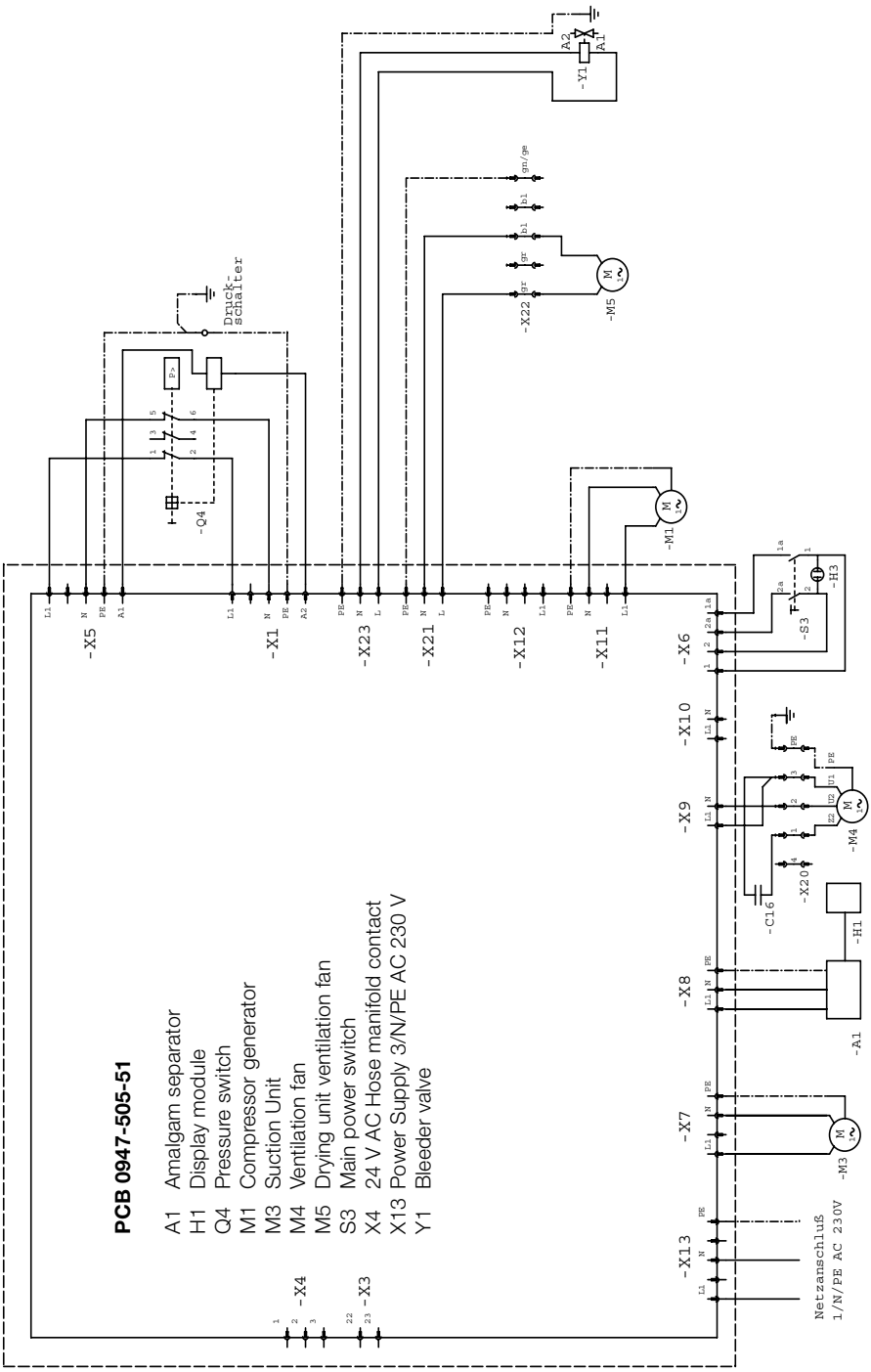
230 V, 1~, 1 aggregat, part 3



230 V, 1~, 1 aggregat, part 4



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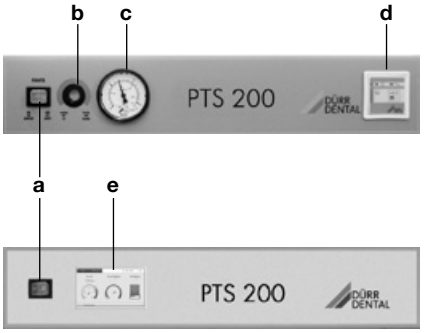

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EN

Use

16. Operation

Detailled descriptions of the function of each individual unit can be found in the Installation and Operating Instructions supplied with the appropriate appliance.

a Main power switch: On (I) / Off (0)

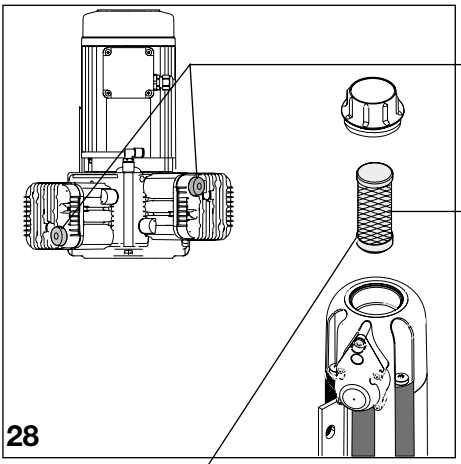
Even when the power switch is in the off (0) position certain components are still subject to live current (e.g. pressure switch, PCB of control unit).

b Relative humidity display
Blue < 30%
Light red > 30%

c Pressure level display
Start-up 5.5 bar
Switch-off 7.5 bar

d Amalgam Separator display panel

e Display for operating state, messages and operation of the PTS



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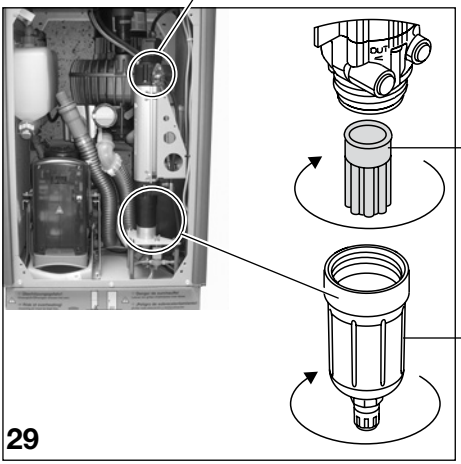

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17. Maintenance

Maintenance information can be found in the Installation and Operating Instructions supplied with each appliance.

Before commencing any maintenance work switch off device at mains

Weekly
- Change fine filter in the hose manifold.

Every two years
- Change bacterial filter in the suction unit (where present)

Every year
- Change filters in the compressor unit (71) and the dry-air unit (72 and 73).

Before changing the filter let off any pressure from the pressure tank.

To change the sinter filter (73), release the drying unit by undoing the 2 butterfly nuts (44) and remove from its mounting, see section on mounting dry-air unit.
Undo the condensate collector vessel (74) and unscrew the sinter filter (73) and remove.

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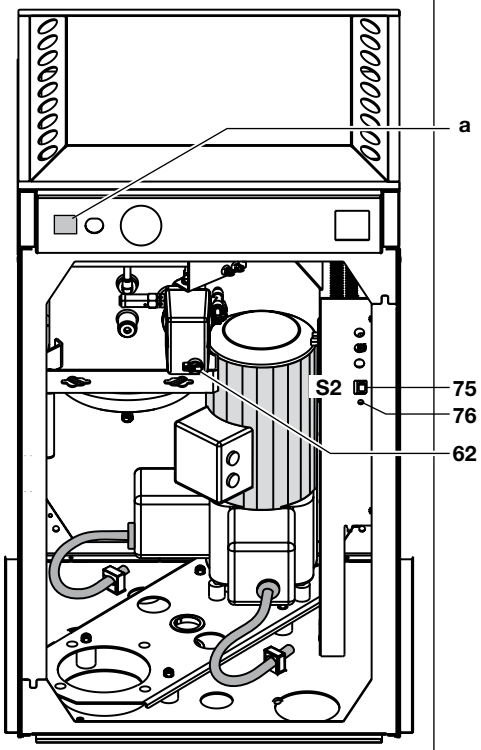

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Trouble-shooting

18. Compressor generator does not function

18.1 PTS Standard models

Where the PTS is equipped with compressor units, the unit can be run on one compressor as follows.

- Switch off PTS at mains switch (a).
- Set switch S2 (75) to 1.
- Switch on PTS at mains switch (a). Red LED (76) lights
- Press switch (62) again on.
- PTS will now run on one compressor.

Further information can be found in the Installation and Operating Instructions supplied with each appliance.

18.2 PTS with display

For PTS models with display follow instructions as necessary.

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