

OIL-FREE

AIR FOR LIFE

DK50 2V DK50 2X2V/110



INSTALLATION, OPERATION AND MAINTENANCE MANUAL



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IMPORTANT INFORMATION

1. CE MARKING

Products labeled with the CE mark of compliance meet the safety guidelines (93/42/EEC) of the European Union.

2. WARNINGS

2.1. General warnings

- This Installation, Operation and Maintenance Manual is a part of the appliance and must be kept with the compressor. Careful review of this manual will provide the information necessary for correct operation of the appliance.
- The safety of operating personnel and trouble-free operation of the appliance are guaranteed only if original parts are used. Only accessories and parts mentioned in the technical documentation or expressly approved by the manufacturer can be used.
- If any other accessories or consumable materials are used, the manufacturer cannot be held responsible for the safe operation of the appliance. This guarantee does not cover damages originating from the use of accessories or consumable material other than those specified or suggested by the manufacturer.
- The manufacturer guarantees the safety, reliability and function of the appliance only if:
 - Installation, new settings, amendments, extensions and repairs are performed by the manufacturer or its representative, or a service provider authorized by the manufacturer
 - The appliance is used in accordance with this Installation, Operation and Maintenance Manual
- The manufacturer reserves all rights for the protection of its wiring diagrams, methods and names.
- Translation of Manual for Installation, Operation and Maintenance is carried out in accordance with the best knowledge. In the case of ambiguities, the Slovak version of the text prevails.

2.2. General safety warnings

The manufacturer developed and designed the equipment in such a way so that any risks were excluded if it is used according to intention. The manufacturer considers it to be its obligation to describe the following safety measures in order to exclude residual damages.

- Operation of the appliance must be in compliance with all local codes and regulations.
- Original packaging should be kept for the return of the appliance. Only the original packaging ensures protection of the appliance during transport. If it is necessary to return the appliance during the guarantee period, the manufacturer is not liable for damages caused by improper packaging.
- Each time the appliance is used, the operator must make sure that it is functioning correctly and safely.
- The user must fully understand the operation of the appliance.
- The product is not intended for operation in areas with a risk of explosion.
- If any problem occurs during use of the appliance, the user must inform his supplier immediately.

2.3. Electrical system safety warnings

- The appliance must be connected to earth (grounded).
- Before the appliance is plugged in, make sure that the mains voltage and mains frequency stated on the appliance are the same as the power mains.
- Prior to putting into operation it is necessary to check for possible damage of the equipment and connected air and electric distributions. Damaged pneumatic and electric lines must be immediately replaced.
- Immediately disconnect the appliance from the mains (pull out mains plug) if a technical failure occurs.
- During repairs and maintenance, ensure that:
 - The mains plug is pulled out from the socket
 - Pressure pipes are vented and pressure is released from the air tank.
- The appliance must be installed by an approved, qualified technician.

3. ALERT NOTICES AND SYMBOLS

In the Installation, Operation and Maintenance Manual and on packaging and product, the following labels or symbols are used for important information:

	Information, instructions and cautions for the prevention of damage to health or materials
	Caution! Dangerous electrical voltage
	Read the user manual!
	CE mark of compliance
	Compressor is remote-controlled and may start without warning
	Caution! Hot surface
	Earth (ground) connection
	Terminal for ground connection
	Fuse
	Alternating current
	Handling mark on package – Fragile, handle with care
	Handling mark on package – This way up (vertical position of cargo)
	Handling mark on package – Protect against moisture
	Handling mark on package – Temperature during storage and transport
	Handling mark on package – Limited stacking
	Mark on package – Recyclable material

4. STORAGE AND TRANSPORT

The compressor is shipped in cardboard that protects the appliance from damage during transport.



Caution! For transport, always use the original packaging and secure the compressor in the upright position.



Protect the compressor from humidity and extreme temperatures during transport and storage. A compressor in its original packaging can be stored in a warm, dry and dust-free area. Do not store near any chemical substances.



Keep packaging material if possible. If not, please dispose of the packaging material in an environmentally friendly way and recycle if possible.



Caution! Before moving or transporting the compressor, release all the air pressure from the tank and hoses and drain the condensed water.

5. TECHNICAL DATA

	DK50 2V	DK50 2VS	DK50 2V/110	DK50 2V/110S	DK50 2x2V/110	DK50 2x2V/110S
Nominal voltage / (*) frequency V / Hz	230 / 50 230 / 60 3x400/50	230 / 50 230 / 60 3x400/50	230 / 50 230 / 60 3x400/50	230 / 50 230 / 60 3x400/50	230 / 50 230 / 60 3x400/50	230 / 50 230 / 60 3x400/50
Efficiency of compressor at over- pressure 5 bar Lit.min ⁻¹	140	140	140	140	280	280
Efficiency of compressor with dryer at over-pressure 5 bar Lit.min ⁻¹	115	115	115	115	215	215
Efficiency of compressor with KJF at over-pressure 5 bar Lit.min ⁻¹	140	140	140	140	280	280
Maximal current A	7.5 8.5 4.5	7.7 8.7 4.7	7.5 8.5 4.5	8 9 5.0	15 17 9.0	15.5 17.5 9.5
Maximal current of compressor with dryer A	7.8 8.8 4.7	8 9 4.9	7.8 8.8 4.7	8.3 9.3 5.2	15.3 17.3 9.2	15.8 17.8 9.7
Motor performance kW	1.1 1.2***	1.1 1.2***	1.1 1.2***	1.1 1.2***	2x1.1 2x1.2***	2x1.1 2x1.2***
Air tank capacity Lit.	25	25	110	110	110	110
Pressure range bar	5,0 – 7,0	5,0 – 7,0	5,0 – 7,0	5,0 – 7,0	5,0 – 7,0	5,0 – 7,0
Maximum operating pressure of safety valve bar	8,0	8,0	8,0	8,0	8,0	8,0
Sound level L _{pfA} [dB]	71	53	71	52	73	53
Mode of operation of compressor or compressor with s KJF	continual S 1	continual S 1	continual S 1	continual S 1	continual S 1	continual S 1
Mode of operation of compressor with dryer	continual S 1	continual S 1	continual S 1	continual S 1	continual S 1	continual S 1
Condensation unit	KJF-1	KJF-1	KJF-1 / KJF-2	KJF-1 / KJF-2	KJF-2	KJF-2
Dimensions of compressor / of compressor with dryer w x l x h mm	460x460x690/ 460x535x690	560x665x860	1090x425x815/ 1085x640x815	1200 x 720 x 990	1090x425x815/ 1085x640x815	1200 x 720 x 990
Weight of compressor / of compressor with dryer kg	52 / 57	88 / 94	70 / 78	145 / 153	98 / 120	173 / 196
Drying point of compressor Atmospheric condensation point	-20°C	-20°C	-20°C	-20°C	-20°C	-20°C
Version EN 60 601-1	Appliance of type B, class I					

(*) When ordering, please specify the version of the compressor

- Weight of compressor with KJF1 increases about 3kg, with KJF2 increases about 4kg

- Air outgoing from KJF is filtered using 5µm filter

(***) Applicable for voltage version of 3x400/50

Climatic conditions during storage and transport

Temperature : -25°C to +55°C, 24 h to +70°C

Relative air humidity : 10% to 90 % (no condensation)

Climatic operation conditions

Temperature : +5°C to +40°C

Relative air humidity : 70%

6. PRODUCT DESCRIPTION

6.1. Model variations and their uses

Compressors are the source of clean, oil-free compressed air used to drive dental appliances and equipment.

Compressors models are designed for the following uses:

Dental compressors DK50 2V - are designed for independent placement of the compressor in any area.

Dental compressors DK50 2V/K - are designed for independent placement of the compressor in any area and feature a condensation and filtration unit (KJF1).

Dental compressors DK50 2V/M - are designed for independent placement of the compressor in any area and feature a membrane dryer.

Dental compressors DK50 2VS - feature soundproof boxes suitable for placing in the dentist's surgery.

Dental compressors DK50 2VS/K - feature soundproof boxes with a condensation and filtration unit (KJF1).

Dental compressors DK50 2VS/M - feature soundproof boxes and a membrane dryer.

Dental compressors DK50 2V/110 and DK50 2x2V/110 - These compressors can be situated in areas where their operation and noise will not disturb their immediate surroundings. They are capable of providing compressed air for several dentists' surgeries.

Dental compressors DK50 2V/110/K and DK50 2x2V/110/K - are equipped with a condensation and filtration unit.

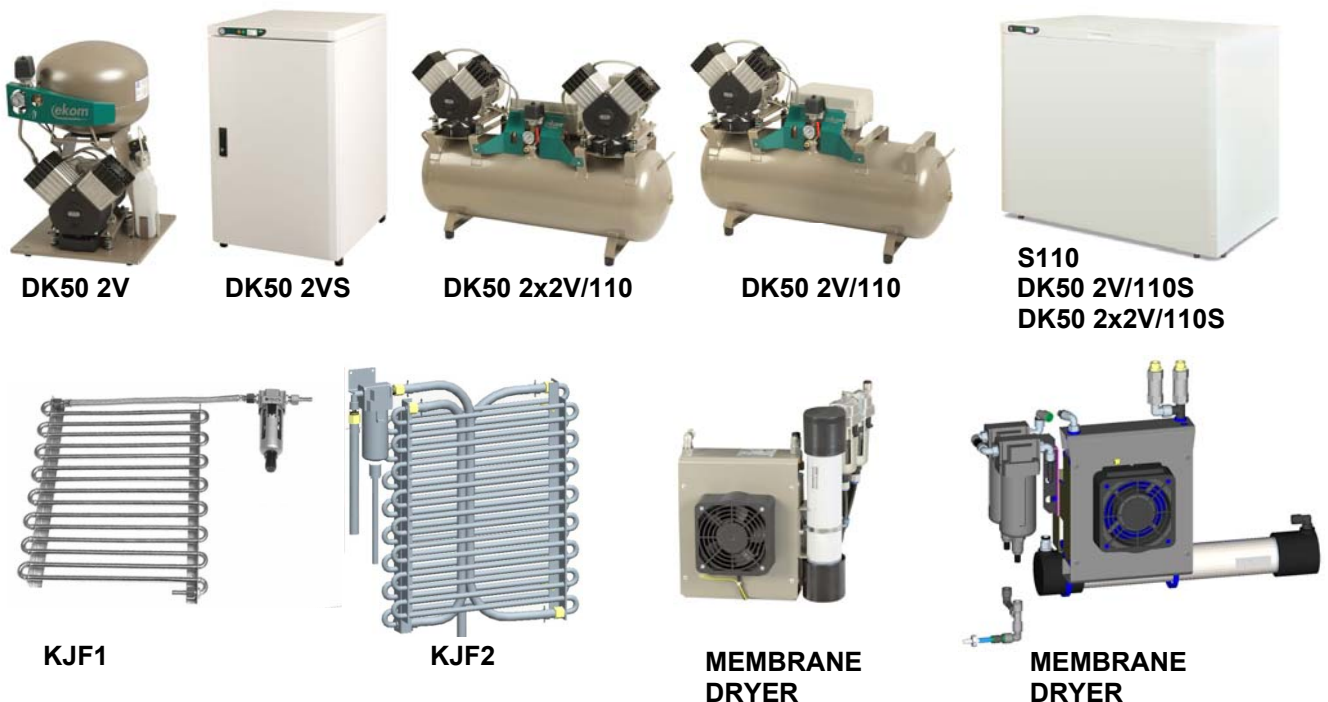
Dental compressors DK50 2V/110/M and DK50 2x2V/110/M - are equipped with a membrane dryer.

Dental compressors DK50 2V/110S and DK50 2x2V/110S - are placed in compact soundproof boxes and are capable of providing compressed air for several dental units.

Dental compressors DK50 2V/110S/K and DK50 2x2V/110S/K - are placed in compact soundproof boxes and are equipped with a condensation and filtration unit.

Dental compressors DK50 2V/110S/M and DK50 2x2V/110S/M - are placed in compact soundproof boxes and are equipped with a membrane dryer.

Box S110 - serves for the decrease of level of compressor noise. Case with compressor may be placed directly in the dental consulting room or laboratory as the part of dental furniture.



Without additional filtration equipment, the compressed air from a compressor is not suitable for the operation of breathing appliances or similar equipment.

7. FUNCTION

Compressor (Fig.1, Fig.2)

The compressor (1) draws in air through a filter (8) and compresses it through a check valve (3) into an air tank (2). The connected apparatus draws the compressed air from the air tank until the pressure drops to a default preset level on the air-pressure switch (4) switching the compressor on. The compressor again compresses air into the nozzle until the maximum pressure is reached and the compressor switches off. After compressor aggregate is switched off, pressure hose shall be pressure-release solenoid valve (13). Safety valve (5) prevents the pressure in air chamber from rising above the maximal allowed value. The drain valve (7) releases the condensate from the air nozzle. Compressed, clean air free from oil traces is stored in the air tank ready for use.

Compressor with membrane dryer (Fig.3, Fig.4)

The compressor unit (1) pulls in outside air through the inlet filter (8) and compresses it through the cooler (15), filter (17) and micro-filter (16) to the dryer (9) and on through the check valve (3) as dry clean air in the air tank (2). Condensate from the filter and micro-filter is automatically drained into the collection vessel. The dryer provides continuous drying of the compressed air. Dry, clean compressed air free from oil traces is stored in the air tank ready for use.

Compressor with condensation and filtration unit KJF1, KJF2 (Fig.5)

The compressor (1) draws in air through a filter (8) and compresses it through a check valve (3) into an air tank (2). The compressed air from the nozzle flows through a cooler (10) that cools the compressed air. The condensed moisture is trapped in the filter (11) and automatically separates as condensate (12). Dried, clean compressed air, free from oil traces, is ready for use.

Compressor box (Fig.6, Fig.7)

The box is soundproof and allows sufficient exchange of cooling air. It can be placed in a dentist's office. Fan under compressor aggregate provides for the compressor cooling. It is in operation at one time with compressor engine, or when temperature in the casing rises above 40°C. After the space in the casing cools down under ca 32°C, fans shall get automatically switched off. Door of the casing with right opening may be changed to left opening (see Chapter 9).



Make sure that nothing impedes the free flow of air under and around the compressor. Never cover the hot air outlet on the top back side of the case.



If placing the compressor on a soft floor such as carpet, create space for ventilation between the base and floor or the box and floor, e.g. underpin the footings with hard pads.

Fig.1 – Compressor

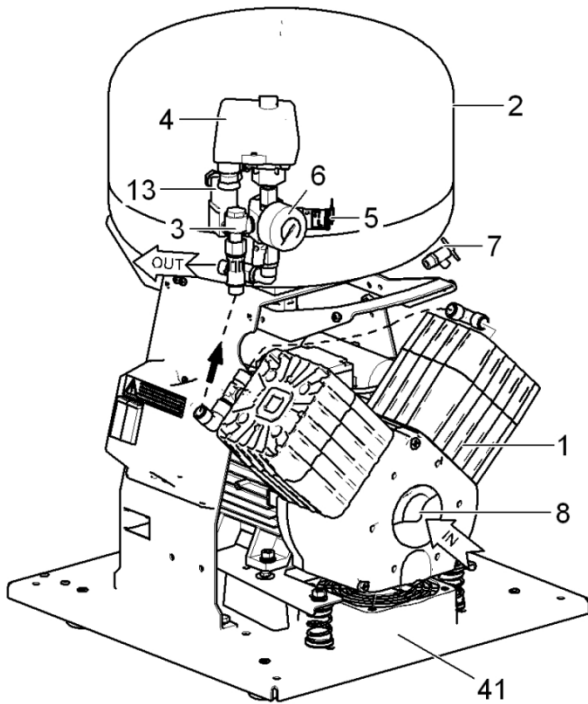
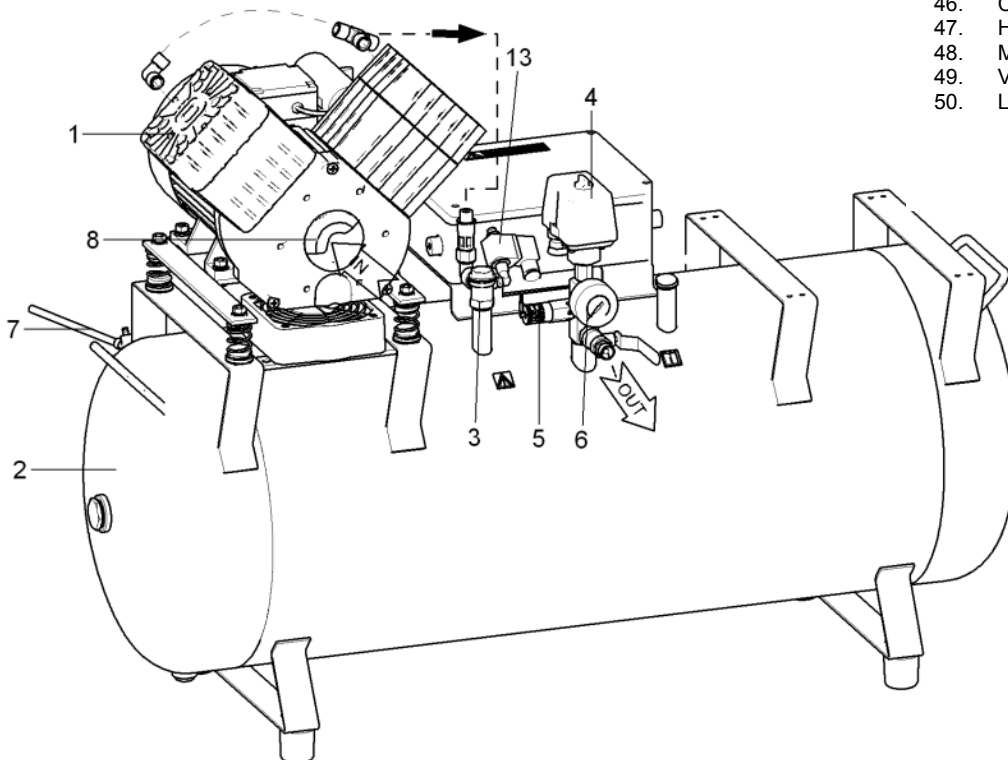


Fig.2 – Compressor



1. Compressor motor
2. Air tank
3. Check valve
4. Pressure switch
5. Safety valve
6. Manometer
7. Drain valve
8. Input filter
9. Dryer
10. Pipe cooler
11. Output filter
12. Condenser outlet
13. Solenoid valve
14. Check valve
15. Cooler
16. Micro-filter
17. Filter
18. Check valve
19. Box fan
20. Screw M5
21. Box gas springs
22. Bottle
23. Drain valve
24. Fitting of output pressure hose
25. Box
26. Lock
27. Connecting reinforcement
28. Wall stopper
29. Switch
30. Manometer
31. Magnetic bottle holder
32. Door hinge
33. Wheels
34. Socket on the box
35. Stopper
36. Hose PUR $\varnothing 8 / \varnothing 6$
37. Screwing with a tap
38. Straight screwing
39. Power supply cord
40. Hose of manometer
41. Compressor Fan
42. Angular screwing $\frac{1}{4}''M-8/6''$
43. Angular screwing $\frac{3}{8}'' MF$
44. Rectification screw
45. Door pin
46. Compressor handle
47. Handle S110
48. Magnetic bottle holder S110
49. Vessel S110
50. Lock S110

Fig. 3 - Compressor with membrane dryer

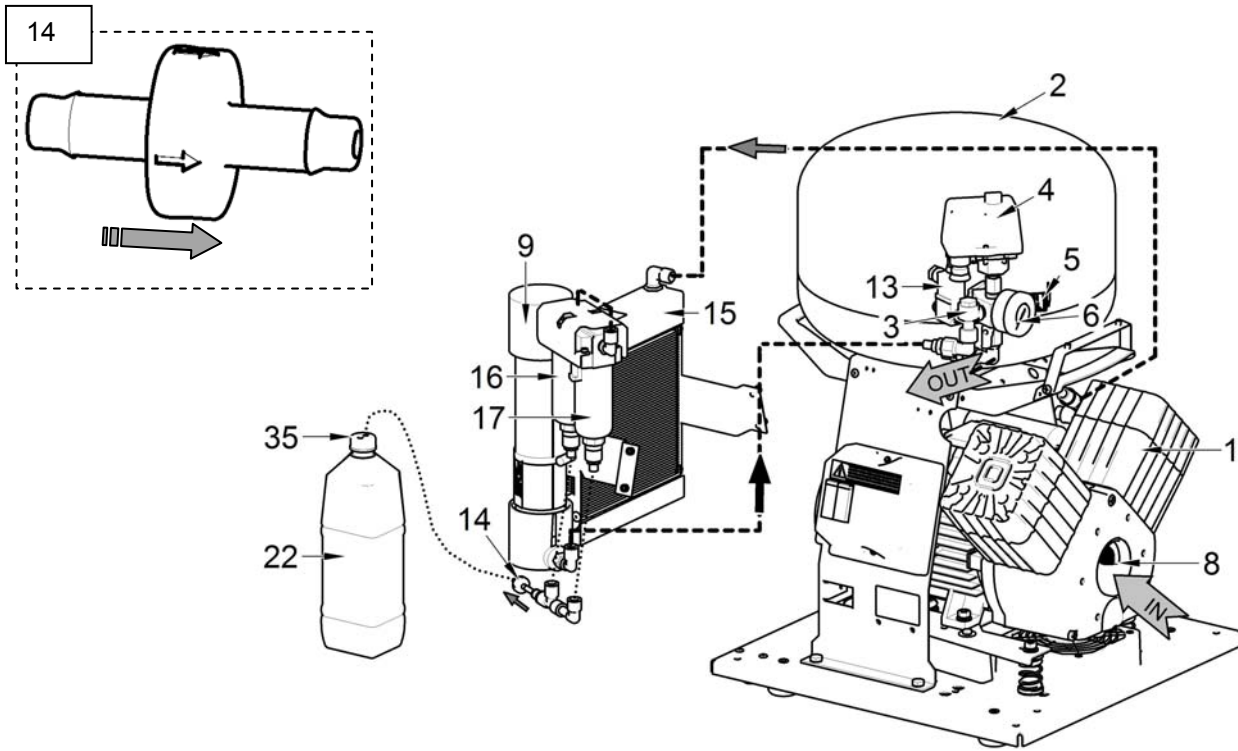


Fig. 4 - Compressor with membrane dryer

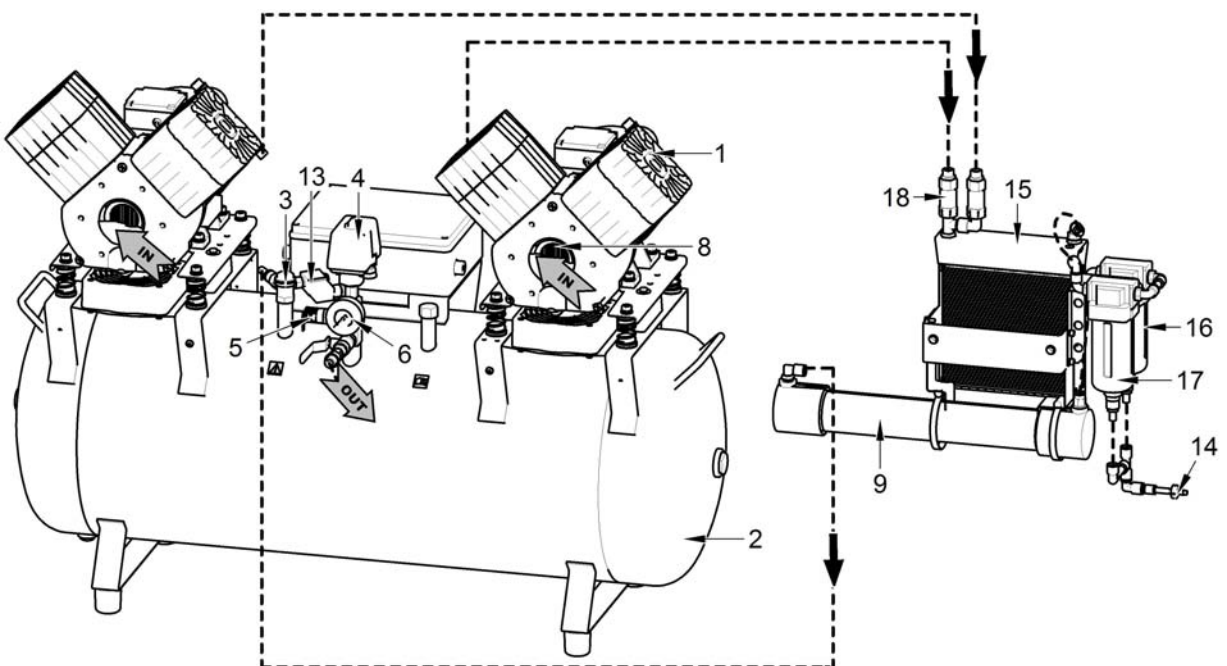


Fig.5 - Compressor with condensation and filtration unit KJF

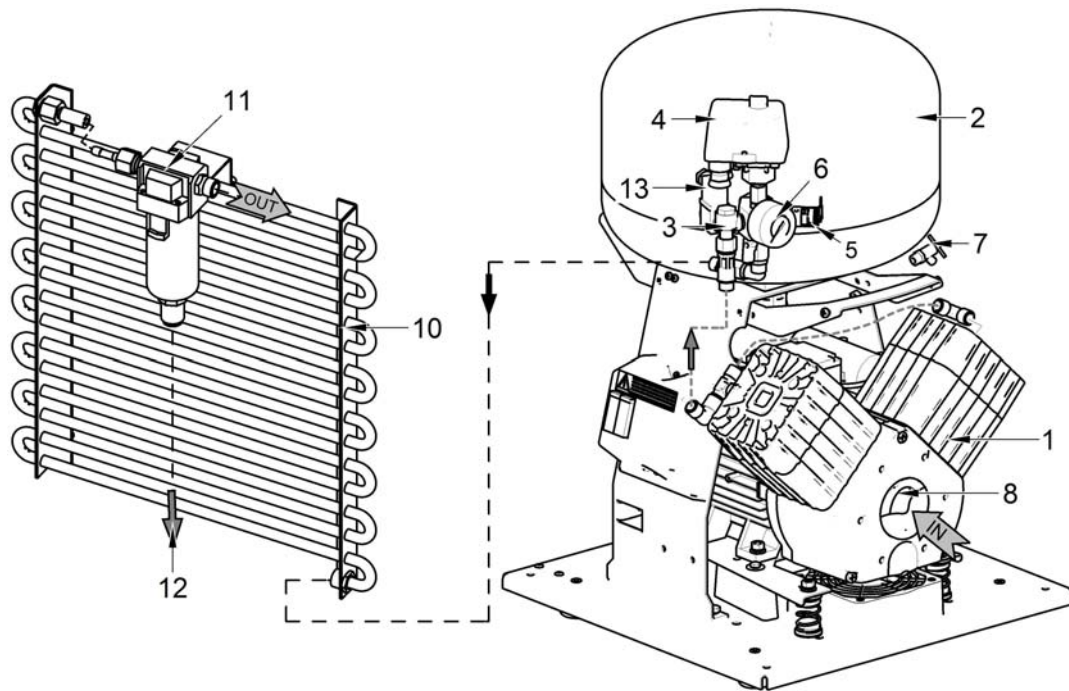


Fig.6 - Box

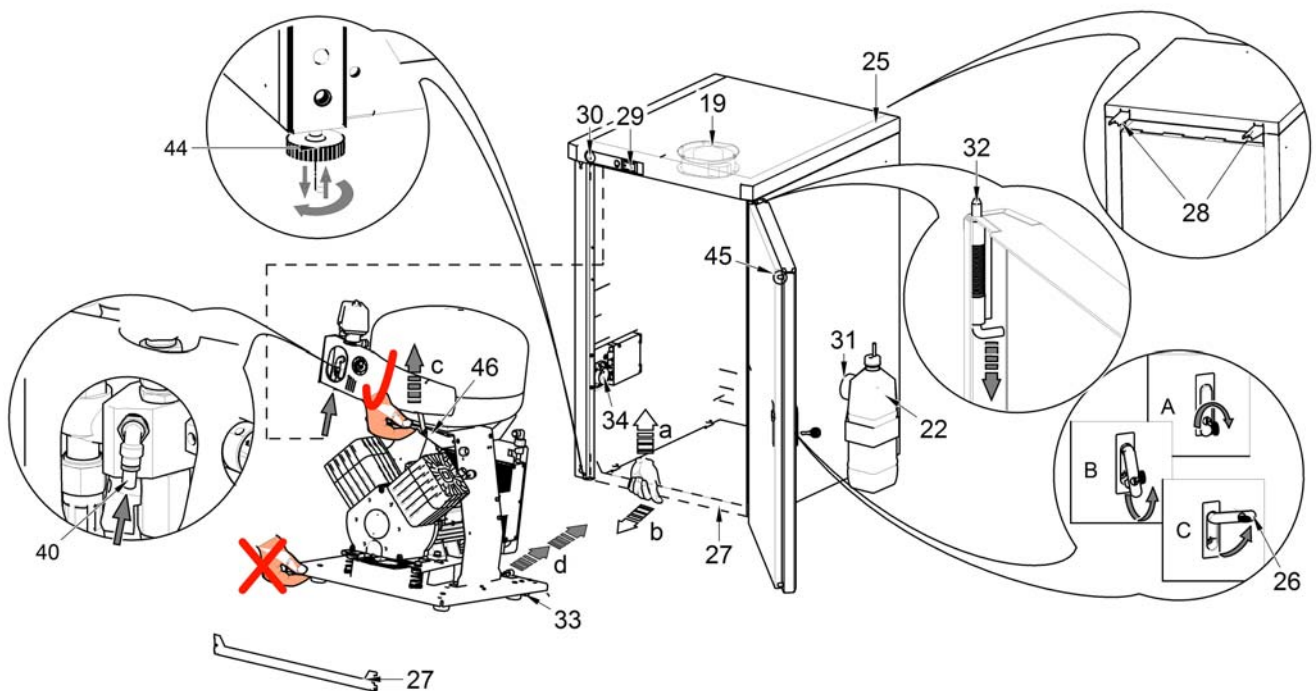
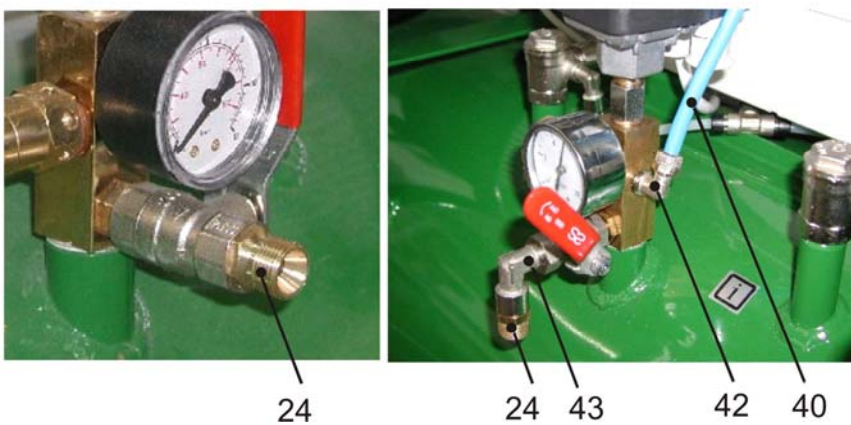
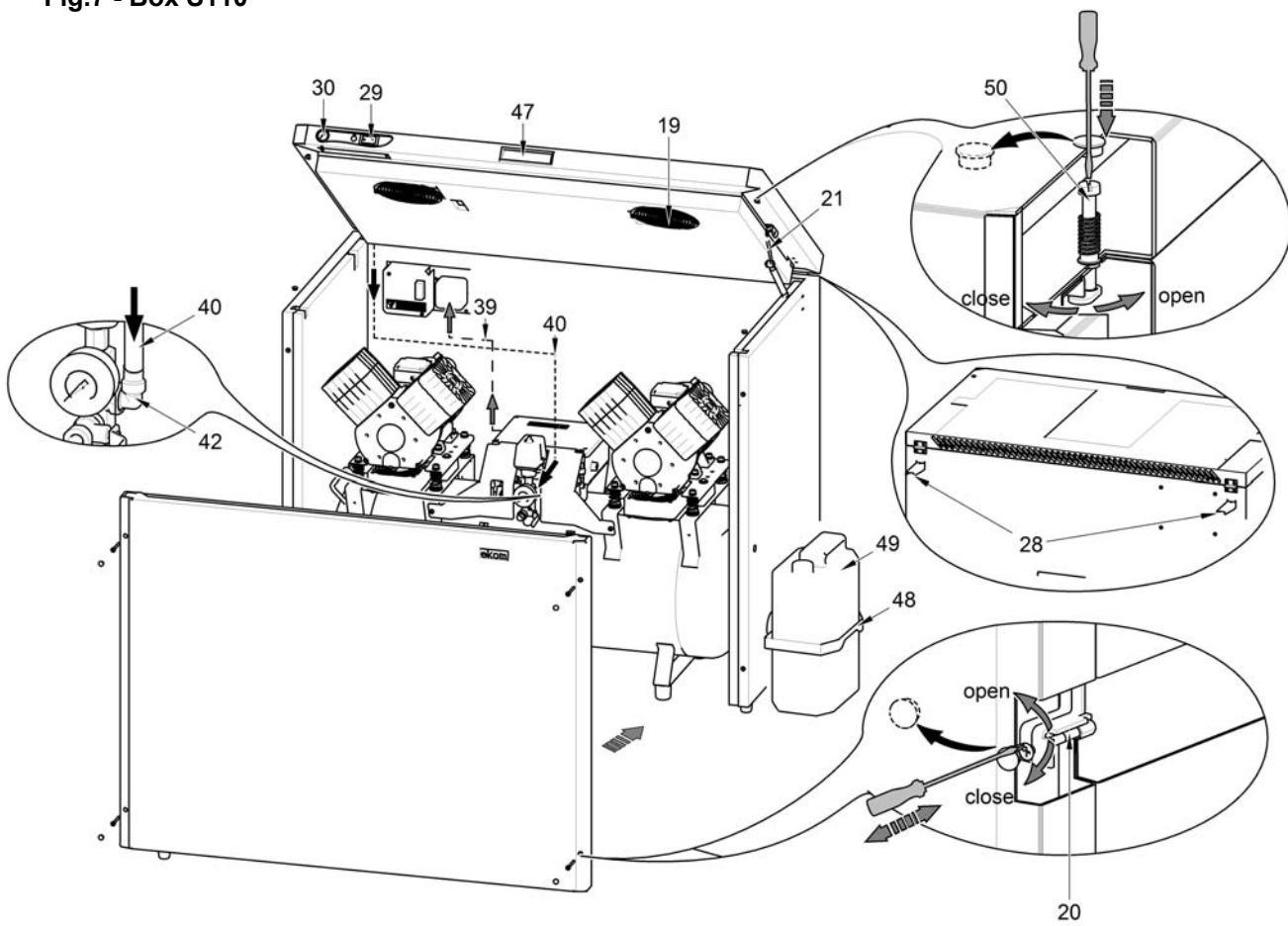


Fig.7 - Box S110



INSTALLATION

8. USE

- The appliance must be installed and operated in a dry, well ventilated and dust-free area where ambient temperature is within the range of +5°C to +40°C and relative air humidity does not exceed 70%. Otherwise, failure-free operation of the compressor cannot be guaranteed. The compressor must be installed so that it is accessible at all times for operation and maintenance. Please ensure that the appliance label is accessible.
- The appliance must stand on a flat, sufficiently stable base. See paragraph 5 (Technical data) when positioning or lifting the compressor.
- Compressors cannot be exposed to outdoor environments. The appliance cannot be used in moist or wet environments. Do not use the compressor in the presence of explosive gases, dust or combustible liquids.
- Before connecting the compressor to medical equipment, the supplier must confirm that it meets all requirements for its use. Refer to the technical data of the product for this purpose. When a unit is to be built-in, classification and evaluation of compatibility must be done by the manufacturer or supplier of the product to be used.
- Any use other than that described in this manual is not covered by the guarantee, and the manufacturer is not liable for any damages that may result. The operator/user assumes all risk.

9. INSTALLATION



Only qualified personnel can install and start up the appliance and train operating personnel in its correct use and maintenance. Installation and training of all operators shall be confirmed by the installer's signature on the certificate of installation.



Prior to installation, ensure that the compressor is free of all transport packaging and stabilizers to avoid any risk of damage to the product.



Caution! When in operation, the compressor is hot. Burns or fire may result if contact is made by the operator or any flammable material.



Electric cord for connection to electric mains and air hoses may not be broken. The power cord may not be exposed to pulling, pressure and excessive heat.

9.1. Placement of the compressor

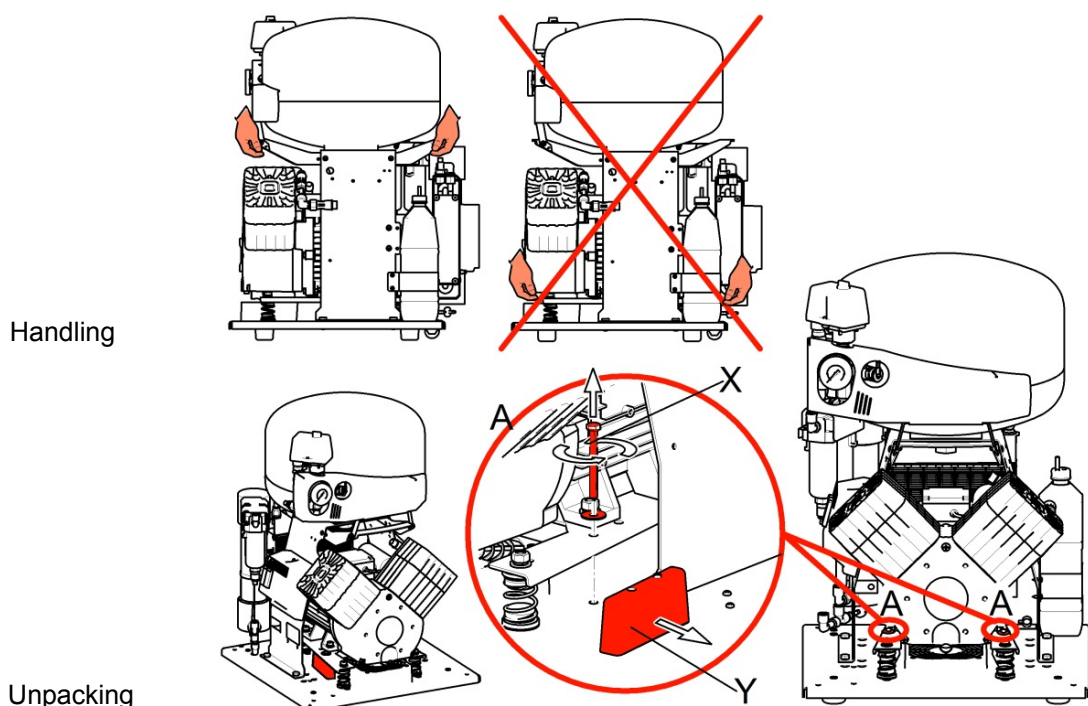


Fig.8 Unpacking

Handling

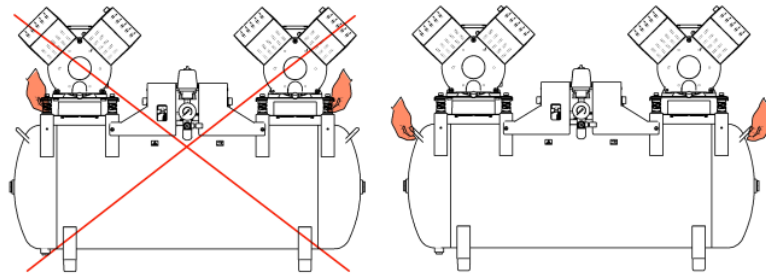
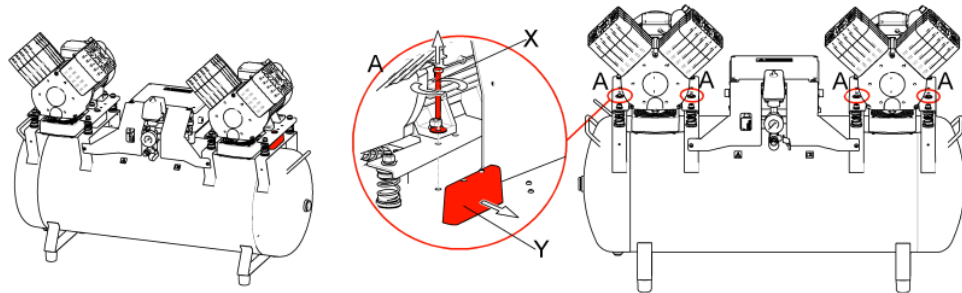


Fig.9 Unpacking



Dental compressor DK50 2V, DK50 2V/110, DK50 2V/110/M, DK50 2x2V/110, DK50 2x2V/110/M (Fig.8)

After removing all packaging material, place the product on the floor and remove stabilization parts X and Y (Detail A). Connect output hose with end-piece to the appliance. Plug the mains cord plug into a socket. Place the drain hose into a container prepared in advance.

Dental compressor DK50 2V/M (Fig.8)

After removing all packaging material, place the product on the floor and remove stabilization parts X and Y (Detail A). Connect output hose with end-piece to the appliance. Plug the mains cord plug into a socket. Connect the condensate drain hose to the vessel (22). Install the tank into the bracket on the compressor.

Dental compressor in box DK50 2VS (Fig.6, Fig.8)

After removing all packaging material, place the product on the floor and remove stabilization parts X and Y (Detail A). Place the wall-mounted stopper (28) - 2 pcs onto the compressor housing in the rear top part of the housing and put the housing onto a required place. The stoppers provide a sufficient distance of the housing from a wall for thorough ventilation. For setting up the compressor in housing you must open the door on the housing using the attached key and remove connecting reinforcement (27) in the front bottom part of housing. If necessary, the door may be disassembled using door hinge (32). Connect the compressor via distributions prepared in advance in a floor according to the installation plan or via holes in the rear part of the housing (Fig.10). Protrude pressure hose via a hole in housing and connect it to the appliance in a suitable way. Grasp the compressor at its handle and put it into the casing using built-in wheels (33). Fix the hose (40) of a manometer (30) in a hose into the fast-on coupling on a compressor, put the connecting reinforcement (27) back and connect the pressure hose to a compressor. Insert the electric power cord of a compressor into a socket (34) on a housing. By slight rotation of rectification screws (44) set the correct position of door against the casing frame. When closing the door the pin (45) on the door must easily snap in the opening in the casing frame. Close the housing doors and duly lock the lock (26). Connect the mains plug into the mains socket.

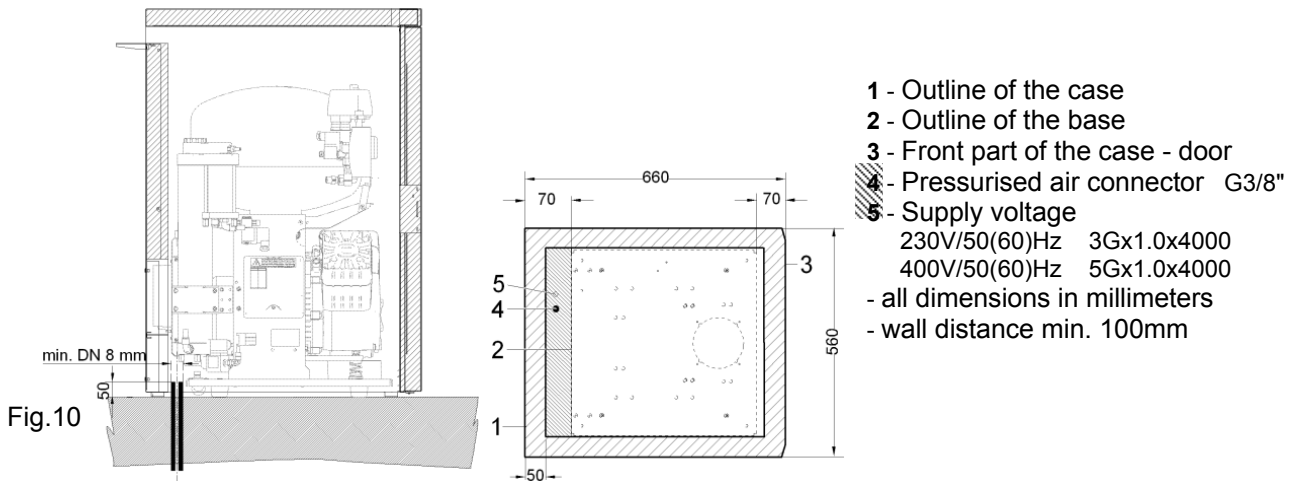
It is not allowed to leave the key in a lock! It must be saved against non-instructed persons!

Dental compressor in box DK50 2VS/M (Fig.6, Fig.8)

After removing all packaging material, place the product on the floor and remove stabilization parts X and Y (Detail A). Place the compressor into housing similarly as in the previous paragraph. Prior to placing the compressor into housing, protrude house for condensate drain via hole in housing and connect it to a bottle (22). Magnetic holder (31) with a vessel (22), for entrapping the condensate from the dryer may be fitted onto any vertical part of casing, or from front on its door. When fixing the holder with a vessel at the housing side it is necessary to consider a space of at least 11 cm between the housing and furniture. Distance smaller than the specified one may cause problem with handling of the vessel.



The vessel (22) must always be installed so that the lower section is near the floor; any other installation may damage the dryer!



- 1 - Outline of the case
- 2 - Outline of the base
- 3 - Front part of the case - door
- 4 - Pressurised air connector G3/8"
- 5 - Supply voltage

230V/50(60)Hz	3Gx1.0x4000
400V/50(60)Hz	5Gx1.0x4000
- all dimensions in millimeters
- wall distance min. 100mm

Dental compressor in box DK50 2V/110S, DK50 2x2V/110S (Fig.7, Fig.9)

After removing all packaging material, place the product on the floor and remove stabilization parts X and Y (Detail A). Place the wall-mounted stopper (28) - 2 pcs onto the compressor housing in the rear top part of the housing and put the housing onto a required place. The stoppers provide a sufficient distance of the housing from a wall for thorough ventilation. Dismount the door, fixed using 4 screws M5 (20) located in the tapered edges of the door and disconnect earthing wire. If necessary, the top panel of the housing may be opened by releasing the locks (50) by moderate rotation of screw driver according to pictogram and lifting using a handrail (47). Gas springs (21) hold it in an open position. Insert the compressor into the housing so that the compressed air outlet was oriented towards the operators and **so that a gap of at minimally 50 mm was between electric motor and plastic foam on the rear panel of the housing.** Orientate the output pressure hose to the rear part of the compressor. Connect the power cord of the compressor (39) into the socket (34) on the electric panel of the housing. Place the threaded joint with a tap (37) into the hole on the side of the housing and place PUR hose with Ø8 / Ø6 (36). Blind the hole on the opposite side of the housing with a plug with Ø15.5. (Selection of the side for placing treaded joint with a tap depends upon the decision of a customer). The other end of the hose (36) place into the straight threaded joint (38) on the air chamber. Place a hose (40) leading from manometer into the angular threaded joint (42) on the air chamber. Protrude the pressure hose via a hole in the housing and connect it to the appliance in a suitable way. Connect the power cord plug leading from the housing into the mains socket. Insert the connector of earthing wire onto the door and screw it onto the housing. Cover the holes after the screws using white end caps with Ø11. Close the top panel of the housing and lock the locks.

Dental compressor in box DK50 2V/110S/M, DK50 2x2V/110S/M (Fig.7, Fig.9)

After removing all packaging material, place the product on the floor and remove stabilization parts X and Y (Detail A). Place the wall-mounted stopper (28) - 2 pcs onto the compressor housing in the rear top part of the housing and put the housing onto a required place. The stoppers provide a sufficient distance of the housing from a wall for thorough ventilation. Dismount the door, fixed using 4 screws M5 (20) located in the tapered edges of the door and disconnect earthing wire. If necessary, the top panel of the housing may be opened by releasing the locks (50) by moderate rotation of screw driver according to pictogram and lifting using a handrail (47). Gas springs (21) hold it in an open position. Prior to placing the compressor into housing, protrude house for condensate drain via hole in housing and connect it to a bottle (49). Magnetic holder (48) with a vessel (49), for entrapping the condensate from the dryer may be fitted onto any vertical part of casing, or from front on its door. When fixing the holder with a vessel at the housing side it is necessary to consider a space of at least 16 cm between the housing and furniture. Distance smaller than the specified one may cause problem with handling of the vessel. Insert the compressor into the housing so that the compressed air outlet was oriented towards operators and **so that ventilator of a dryer was inserted into the venting tunnel in a housing.** Orientate the output pressure hose to the rear part of the compressor. Connect the power supply cord of compressor (39) to the socket (34) on electric panel of the housing. Blind the holes at the sides of the housing using a plug with Ø15.5. Place a hose (40) leading from manometer into the angular threaded joint (42) on the air chamber. Protrude the pressure hose via a hole in the housing and connect it to the appliance in a suitable way. Connect the power cord plug leading from the housing into the mains socket. Put on the connector of earthing wire onto the door and screw it onto the housing. Cover the holes after the screws using white end caps with Ø11. Close the top panel of the housing and lock the locks.



The vessel (22) must always be installed so that the lower section is near the floor; any other installation may damage the dryer!

Dental compressor DK50 2V/110/M, DK50 2x2V/110/M, DK50 2V/110, DK50 2x2V/110 which was not delivered together with the case S110 (Fig.7, Fig.9)

Prior to the placing of compressor into the case, it is necessary to make the following works at the compressor:

- Remove tap for the drainage of condensate (23) from air chamber (bonded joint) and to replace it with straight fitting Ø8 - 1/4" (38) (bond). – for version of compressor without dryer
- Remove the fitting (24) for the connection of output pressure hose (bonded joint) and place it into angular fitting (43) 3/8" M/F (bond). Then fix this unit to the original place of fitting (bond) so that the output of air was directed downwards.
- Remove the plug (bonded joint) and to replace it with angular fitting (42) 1/4 M-8/6 (bond).

Place the compressor into the housing similarly as in the previous paragraphs for compressor in a housing DK50 2V/110S/M, DK50 2x2V/110S/M or compressor in a housing DK50 2V/110S, DK50 2x2V/110S.



While closing the upper board, it is necessary to increase the care – the risk of squeezing the fingers of a hand.

After closing the lid of the case it is necessary to secure the fast-on elements!

Supply voltage – DK50 2V/110

230V/50(60)Hz 3Gx1.0x4000
400V/50(60)Hz 5Gx1.0x4000

Supply voltage – DK50 2x2V/110

230V/50(60)Hz 3Gx1.5x4000
400V/50(60)Hz 5Gx1.5x4000

9.2. Compressed air outlet

(Fig.11)

Lead the pressure hose from the output of compressed air (1) to the appliance – dental set.

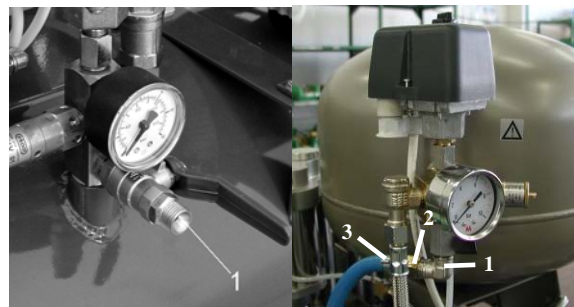


Fig.11

9.3. Electrical connection

Plug the electrical cord into the mains.

The appliance is equipped with a grounded plug. Make sure this connection complies with local electrical codes. The mains voltage and frequency must comply with the data stated on the appliance label.



(Fig.12)

- Keep the socket easily accessible to ensure that in an emergency the appliance can be safely disconnected from the mains.
- Connection to the power distribution box must be max.16 A.
- The connection of the earth ground pin Ø 6mm (1) with other appliances must be completed in accordance with local electrical codes. The female socket (2), which is not included in the standard set, is an optional accessory.



Fig.12

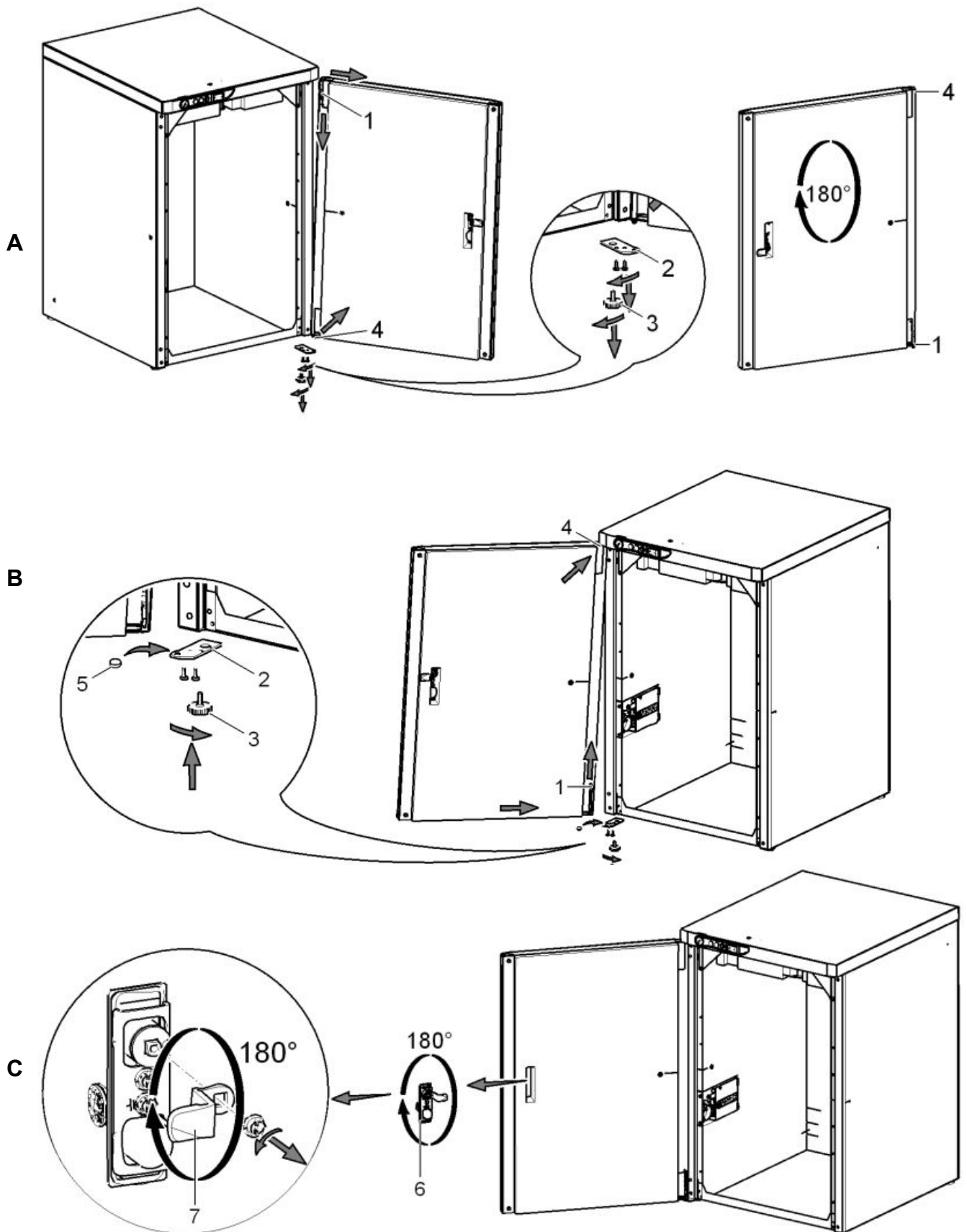


Electrical cable may not contact the hot parts of a compressor. Insulation could be damaged!

If any electrical cord or air hose is damaged it must be replaced immediately.

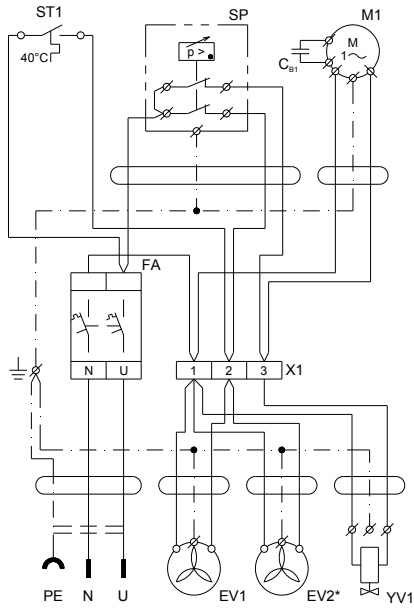
9.4. Chance in the door opening

- Disassemble the door, rectification screw (3) and the holder (2) of the hinge D (4).
- Mount holder of the hinge D to the left side of the casing.
- Rotate the door by 180°.
- Insert a spacer (5) between the hinge H(1) and the bottom side of the door
- Mount the door.
- Disassemble the lock (6) on the door, rotate it by 180°.
- Disassemble the latch (7) on the lock, rotate it by 180°.
- Mount the lock to the door.



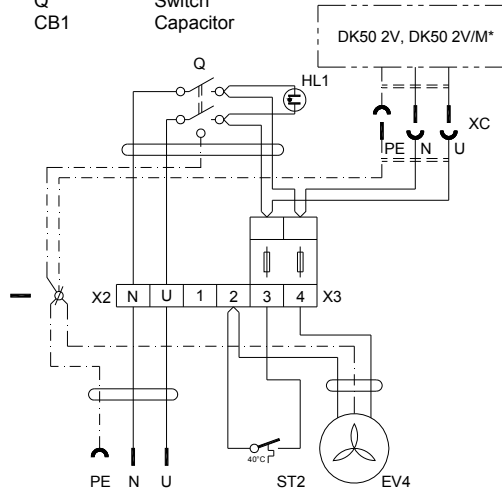
10. WIRING DIAGRAMS

1/N/PE ~ 230 V 50..60 Hz
ELECTRIC OBJECT OF 1st CAT.
B TYPE



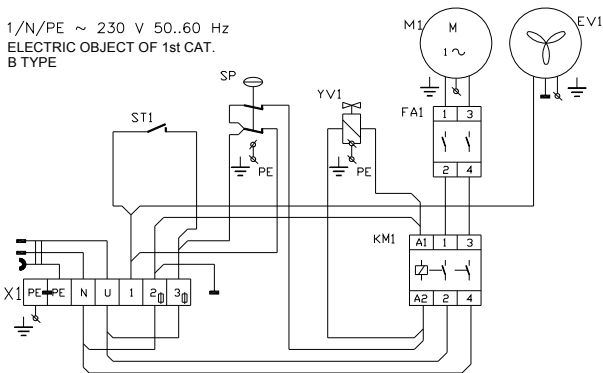
DK50 2V, * DK50 2V/M

- M1 Motor of compressor
- EV1 Fan of compressor
- EV2* Fan of dryer
- EV4 Fan of box
- FA1 Breaker
- ST1, ST2 Thermo switch
- SP Pressure switch
- YV1 Solenoid valve of compressor
- X1, X2 Terminal
- X3 Terminal with fuses
- XC Connector
- HL1 Glowlamp
- Q Switch
- CB1 Capacitor



DK50 2VS

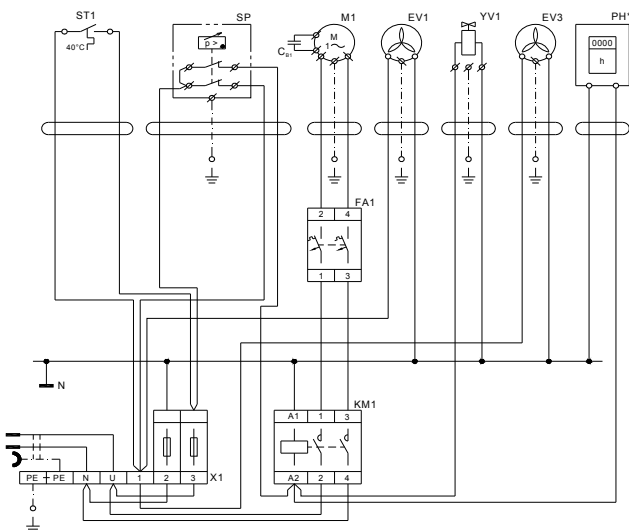
1/N/PE ~ 230 V 50..60 Hz
ELECTRIC OBJECT OF 1st CAT.
B TYPE



DK50 2V/110

- SP Pressure switch
- EV1 Fan of compressor
- ST1 Thermo switch
- EV3 Fan of dryer
- M1 Motor of compressor
- YV1 Solenoid valve of compressor
- FA1 Breaker
- KM1 Contactor
- X1 Terminal with fuses
- PH* Hour meter

1/N/PE ~ 230 V 50/60 Hz
ELECTRIC OBJECT 1ST CAT.
TYPE B



DK50 2V/110/M

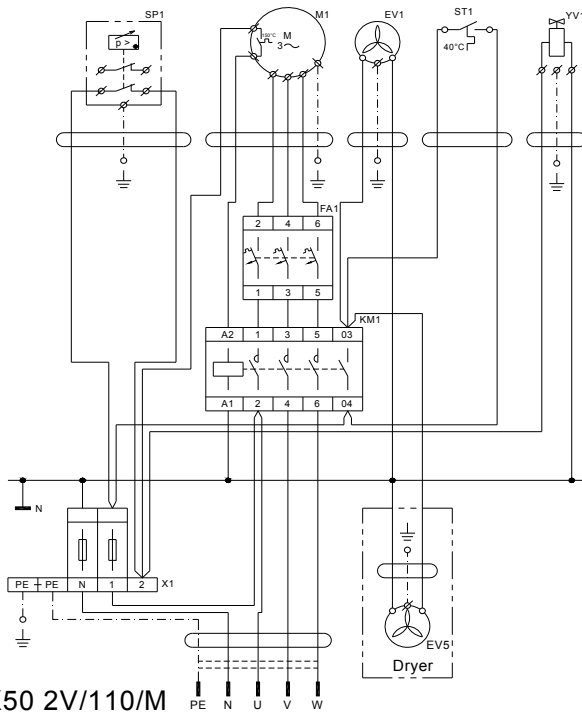
* - only for 10 bar

22. 11. 2013

DK50 2V
DK50 2V/110



3/N/PE ~ 400/230 V 50 Hz
MAINS TN-S [TN-C-S]
ELECTRIC OBJECT 1ST CAT.
TYPE B

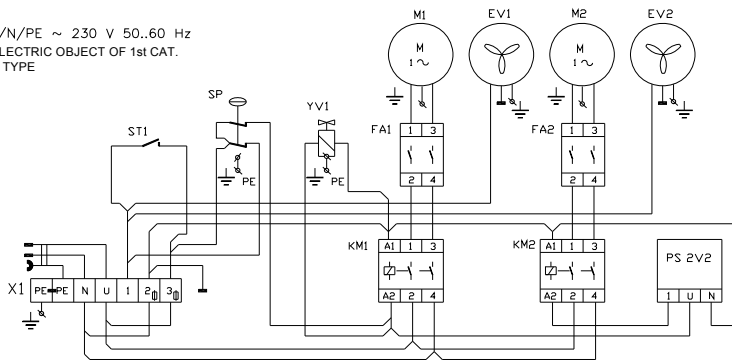


- M1, M2 Motor of compressor
- KM1, KM2 Contactor
- FA1, FA2 Breaker
- ST1 Thermo switch
- SP Pressure switch
- PS 2V2 PCB
- EV1, EV2 Fan of compressor
- EV3 Fan of dryer
- X1 Terminal with fuses
- YV1 Solenoid valve of compressor
- PH* Hour meter

DK50 2V/110/M

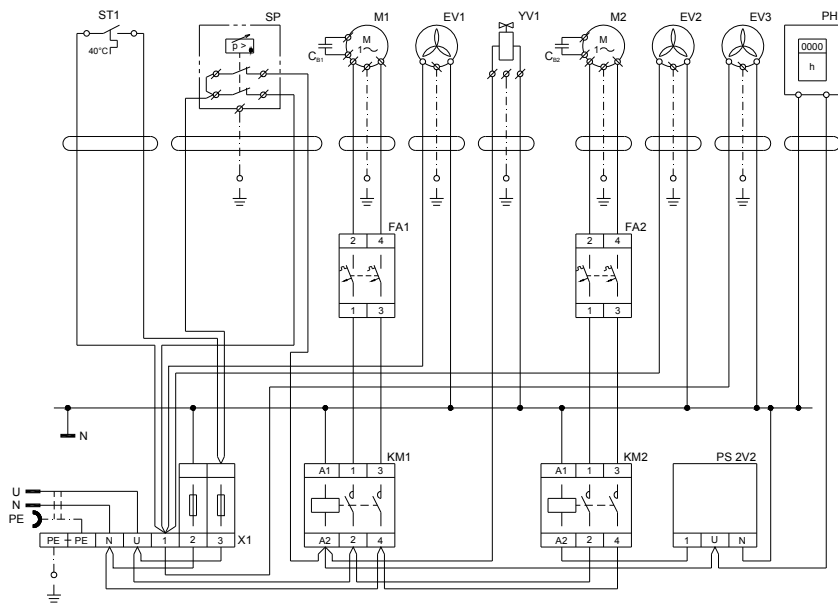
26. 11. 2013

1/N/PE ~ 230 V 50..60 Hz
ELECTRIC OBJECT OF 1st CAT.
B TYPE



DK50 2x2V/110

1/N/PE ~ 230V 50..60 Hz
ELECTRIC OBJECT 1ST CAT.
TYPE B

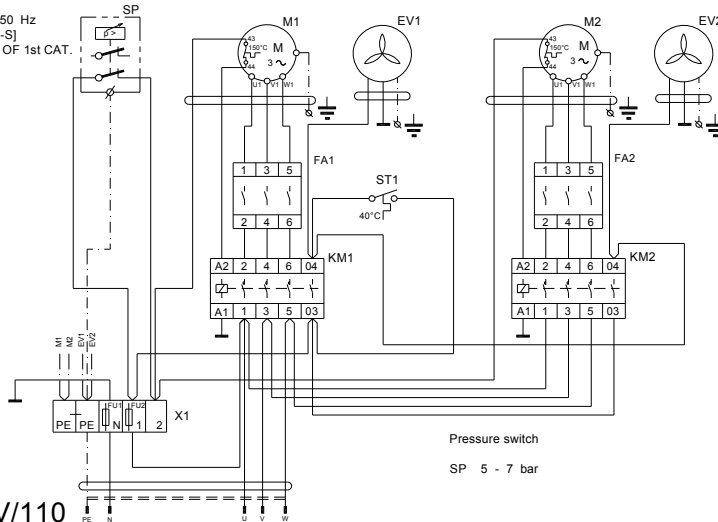


* - only for 10 bar

DK50 2x2V/110/M

22. 11. 2013

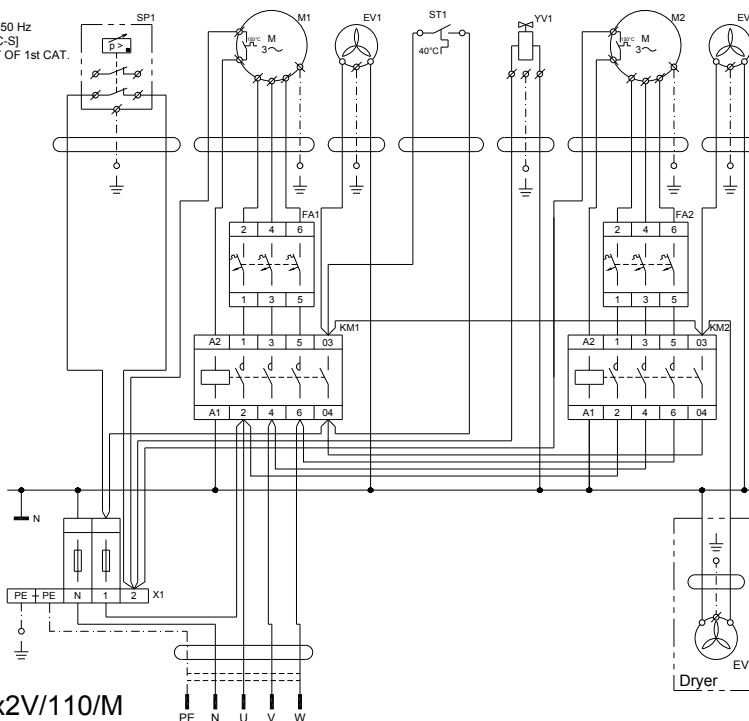
3/N/PE ~ 400/230 V 50 Hz
MAINS TN-S [TN-C-S]
ELECTRIC OBJECT OF 1st CAT.
B TYPE



- M1, M2 Motor of compressor
- KM1, KM2 Contactor
- FA1, FA2 Breaker
- ST1 Thermo switch
- SP1 Pressure switch
- EV1, EV2 Fan of compressor
- EV3 Fan of dryer
- X1 Terminal with fuses
- YV1 Solenoid valve of compressor
- PH* Hour meter

DK50 2x2V/110

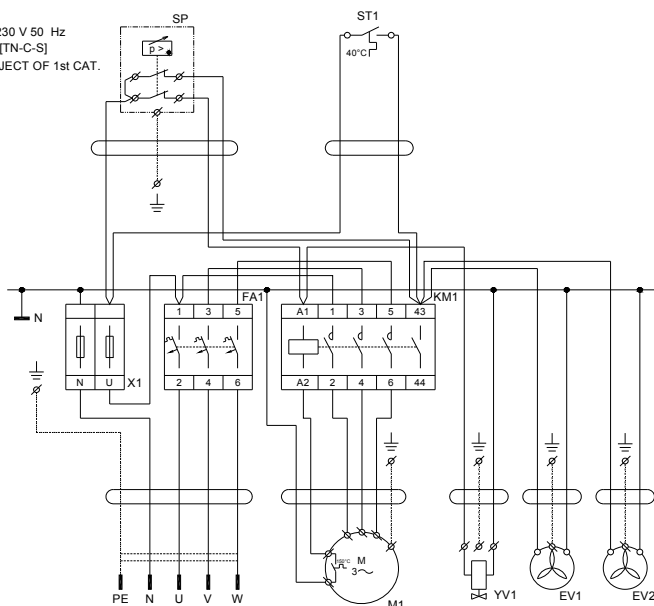
3/N/PE ~ 400/230 V 50 Hz
MAINS TN-S [TN-C-S]
ELECTRIC OBJECT OF 1st CAT.
B TYPE



DK50 2x2V/110/M

26. 11. 2013

3/N/PE ~ 400/230 V 50 Hz
MAINS TN-S [TN-C-S]
ELECTRIC OBJECT OF 1st CAT.
B TYPE



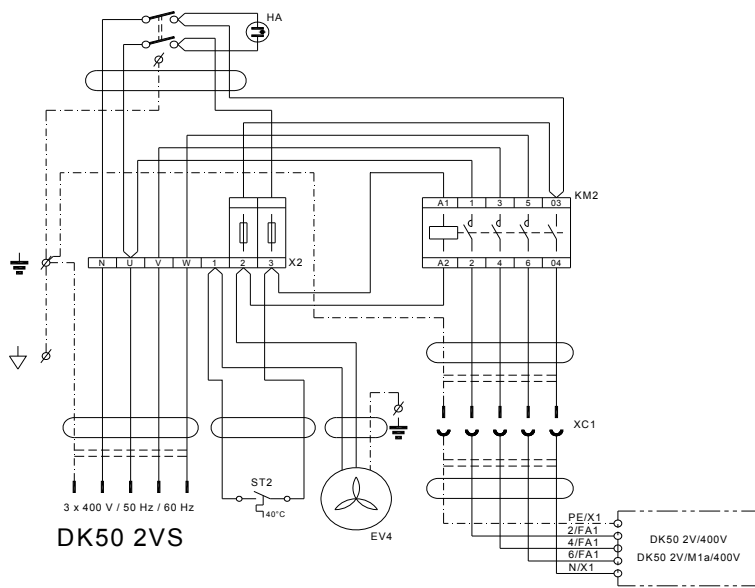
- M1 Motor of compressor
- KM1 Contactor
- FA1 Breaker
- ST1 Thermo switch
- SP1 Pressure switch
- EV1 Fan of compressor
- EV2* Fan of dryer
- X1 Terminal with fuses
- YV1 Solenoid valve of compressor

DK50 2V , * DK50 2V/M

DK50 2V
DK50 2V/110

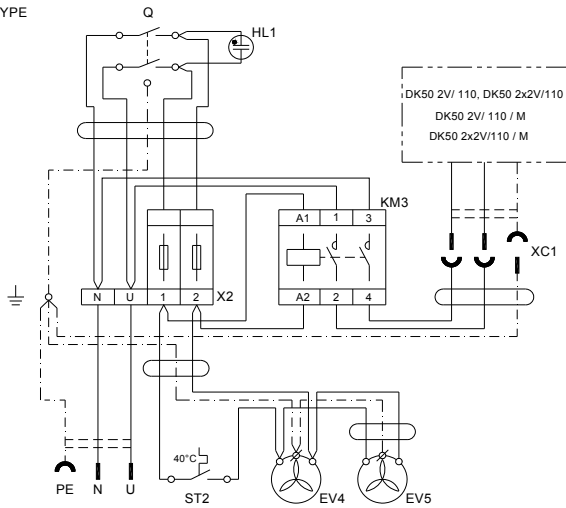


3/N/PE - 400/230 V 50..60 Hz
ELECTRIC OBJECT OF 1st CAT.
B TYPE



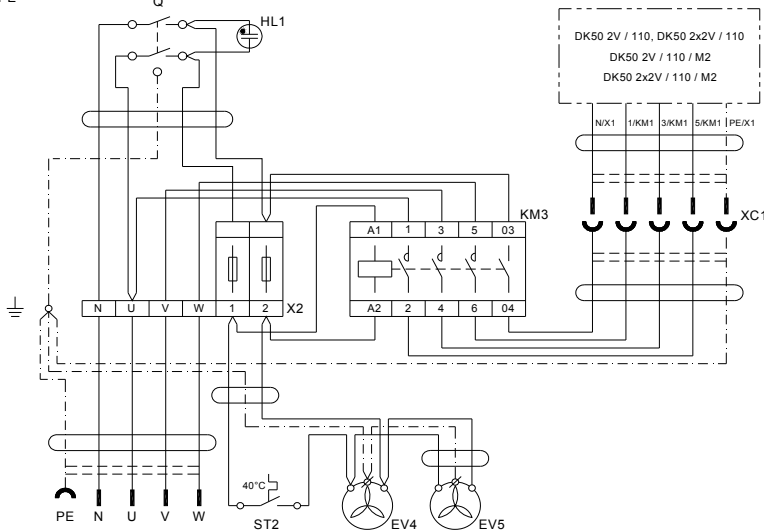
DK50 2VS

1/N/PE - 230 V 50..60 Hz
ELECTRIC OBJECT OF 1st CAT.
B TYPE



S110

3/N/PE - 400/230 V 50..60 Hz
ELECTRIC OBJECT OF 1st CAT.
B TYPE



S110

11. FIRST OPERATION

(Fig.13)

- Make sure that all stabilizers used during transport were removed.
- Check that all pressurized air line connections are secure.
- Connect to the mains.
- Start compressor at pressure switch (2) by turning switch (3) to position "I."
- For kompressor in the box turn the switch (29) (Fig.6, Fig.7) at the front part of the soundproof box to the position "I" – green light indicates that the appliance is on.

Compressor - At first operation the air tank is pressurized until it reaches a preset level when the compressor automatically switches off. As the air is used, the compressor works in automatic mode, switched on or off by the pressure switch.

Compressor with dryer - during operation the accessory dryer removes moisture from the compressed air passing through it.

Compressor with condensation and filtration unit - Model KJF filters and dehumidifies the air and automatically releases condensed liquid through the filter's discharge valve.



The compressor is not equipped with an emergency power supply.

OPERATION



In case of emergency, disconnect the compressor from the mains (pull out the mains plug).



**The compressor has hot surfaces.
Burns or fire may result if contact is made.**



During prolonged operation of the compressor, the temperature in the box may increase to over 40°C. At this point the cooling fan automatically switches on. After cooling the space to under 32°C, the ventilator switches off.



Automatic start: when pressure in the tank drops to the pressure switch's lower limit level, the compressor automatically switches on. The compressor automatically switches off after reaching the pressure switch's upper limit level.

Compressor with dryer

A correct function of the drier depends on the compressor's operation and no attendance is required. The pressure vessel need not be sludged, because the pressure air entering the air chamber is already dried.

- It is forbidden to alter the working pressures of pressure switch set by manufacturer. The operation of the compressor at working pressure lower than the switching pressure demonstrates the overload of the compressor (high air consumption) by the appliance, leakages in pneumatic distributions, failure of aggregate or drier.
- Prior connecting drier to air chamber, that was used with compressor without drier, it is necessary to clean interior surface of air chamber and perfectly remove condensed liquid. Then interconnect electric part of drier with compressor according to wiring diagram in accord with valid regional regulations.



Required drying performance can only be achieved when following the defined operating conditions!



Drying performance will decline and the achieved dew point will drop if the dryer is operated at any pressure below the minimum working pressure!
Dryer operation at a pressure of 0.5 Bar below the minimum working pressure can lower the dew point at the outlet by more than 10°C!



The dryer will be irrevocably damaged and need replacement if operated at any temperature above the maximum working temperature!

12. SWITCHING THE COMPRESSOR ON

(Fig.13)

Switch on the compressor at the pressure switch (2) by turning the knob (3) to position "1." (for compressor in the box switch (29) Fig.6, Fig.7), on the front part of the compressor box), The compressor sends pressurized air to the air tank. As the compressed air is used, the pressure in the air nozzle drops to a preset level, the compressor switches on and the air nozzle files with compressed air. After reaching the cutoff pressure the compressor turns off automatically and the cycle is repeated. Check the value of switching-on and switching-off pressure on pressure gauge. The values may be within a tolerance of $\pm 10\%$. Air pressure in air chamber must not exceed maximal permitted operation pressure.

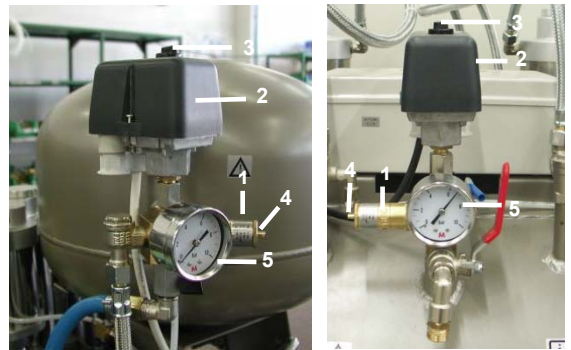


Fig.13



Never tamper with the pressure switch (2). Adjustments are not allowed. The pressure switch (2) has been set by the manufacturer and further setting of switching on and off pressure may be carried out only by a qualified expert trained by the manufacturer.

MAINTENANCE

13. MAINTENANCE SCHEDULE

Notice!

The operating entity is obliged to ensure that all tests of the equipment are carried out repeatedly at least once within every 24 months (EN 62353) or in intervals as specified by the applicable national legal regulations. A report must be prepared on the results of the tests (e.g.: according to EN 62353, Annex G), including the measurement methods used.

Time interval	Maintenance that must be performed	Chapter	Performed by
1 x day	<ul style="list-style-type: none"> Release condensate - At high air humidity 		
1 x week	<ul style="list-style-type: none"> -Compressor without air drier Compressors with air drier Compressors with condensation unit : <ul style="list-style-type: none"> - from filter - from pressure vessel 	14.1	operating staff
1 x year	<ul style="list-style-type: none"> Check safety valve 	14.2	qualified technician
	<ul style="list-style-type: none"> Replace filter and micro-filter elements 	14.4 14.5	operating staff
	<ul style="list-style-type: none"> Replacement of filter in condensation unit 	14.6	qualified technician
	<ul style="list-style-type: none"> Check tightness of joints Overall examination of device 	Service documentation	qualified technician
1 x 2 years	<ul style="list-style-type: none"> Perform "Repeated Test" according to EN 62353 	13	qualified technician
1 x 2 years or after 5000 hours	<ul style="list-style-type: none"> Replacement of the input filter and prefilter 	14.3	qualified technician

14. MAINTENANCE



Repair work beyond normal maintenance can be performed only by qualified personnel or the manufacturer's representative.
Use only spareparts and accessories approved by the manufacturer.



Prior to any maintenance or repair work, switch off the compressor and disconnect it from the mains (pull out the mains plug).



For permanently high efficiency of drying, it is necessary to maintain the whole appliance, and mainly ventilator clean – regularly clean the surface of ventilator and cooling fins of cooler.

TO ENSURE THAT THE COMPRESSOR WORKS CORRECTLY, PERFORM THE FOLLOWING MAINTENANCE TASKS AT REGULAR INTERVALS (CHAPTER 13):

14.1. Condensation drain valve

Compressors (Fig.14, Fig.15)

During regular use, release condensation from the pressure tank. Switch off the compressor at the mains. Reduce air pressure in the appliance to max. 1 bar by releasing air via a connected device. Place the hose with the drain valve into a container prepared in advance (for compressors DK50 2V/110 and DK50 2x2V/110 orientate the vessel towards the drain valve, for compressors DK50 2V place the vessel under release valve) and open the drain valve (1). Wait until condensation is fully drained from the pressure tank. Close drain valve (1).

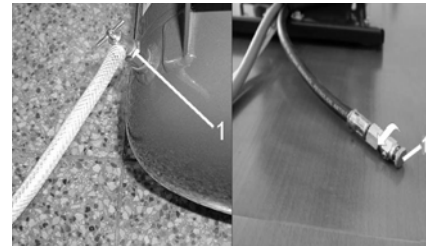


Fig.14

Compressors with condensation and filtration unit (Fig.19)

During regular use, condensation is automatically released via the release valve of the condensation unit filter. To check that the automatic drain is working properly, open the valve (4) of the drain vessel (2) by turning to the left. Release a small amount of condensate from the vessel. Close the valve (4) by turning to the right.



Fig.15

DK50 2V

Compressors with air dryer

In the case of a regular operation condensate is automatically excreted via air dryer and it is entrapped in a bottle. Take out the bottle from a holder, release stopper and pour out the condensate.

If necessary, it is possible to connect the set for condensate discharge onto the condensate outlet (see Chap. PARTS LIST - Auxiliary Equipment).



For versions of a compressor with a housing it is necessary to open the housing prior to the following checks.

For DK50 2VS - unlock the lock on the door and open the door of the housing (Fig.6)

For DK50 2V/110S, DK50 2x2V/110S unlock the locks on the top panel of the housing and lift (Fig.7)

14.2. Safety valve check

(Fig.13)

When the compressor is operated for the first time, make sure that the safety valve is working properly. Turn screw (4) of safety valve (1) several rotations to the left until the safety valve releases air. Let the safety valve blow out for only a few seconds. Turn screw (4) to the right until it seats, closing the valve.



The safety valve must never be used for depressurizing the air tank. It could damage the safety valve. The valve is set to the maximum permitted pressure by the manufacturer. Adjustments are not permitted.



Warning! Compressed air can be dangerous. Wear eye protection when blowing air out.

14.3. Replacement of the input filter and prefilter

(Fig.16)

At the lid of the compressors crankcase is an input filter (1) and prefilter (3).

Replacing of the input filter:

- Hand pull the rubber stopper (2).
- Remove used and dirty filter.
- Input new filter and set rubber stopper.

Replacing of the prefilter:

- Hand pull prefilter (3).
- Replace old prefilter with new.

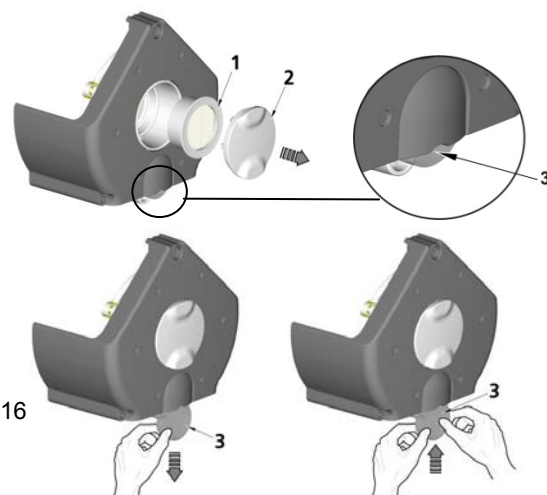


Fig.16

14.4. Replace the filter element

(Fig.17)

Loosen a safety-catch (1) on a filter regulator by pulling it down.
Turn the container slightly (2) and pull out.
Unbolt the filter holder (3).
Change the filter bed (4), bolt the filter holder.
Put the filter container on and secure it by turning it until the safety-catch is fixed.



Fig.17

Compressor	Filter	Order number	Filter insert	Order number
DK50 2V, DK50 2V/110	AF 30-F02C	025200005	AF 30P-060S 5 μm	025200061
DK50 2x2V/110	AF 40-F02C	025200215	AF 40P-060S 5 μm	025200079

14.5. Replacing the micro-filter element

(Fig.18)

Loosen a safety-catch (1) on a micro filter by pulling it down.
Turn the container slightly (2) and pull out.
Unbolt the filter element (3).
Change and bolt the filter element.
Put the filter container on and secure it by turning it until the safety-catch is fixed.



Fig.18

Compressor	Micro-filter	Order number	Filter insert	Order number
DK50 2V, DK50 2V/110	AFM 30-F02C	025200007	AFM 30P-060AS 0,3 μm	025200076
DK50 2x2V/110	AFM 40-F02C	025200216	AFM 40P-060AS 0,3 μm	025200080

14.6. Replacement of filter in condensation and filtration unit



Before beginning, depressurize the air tank to zero and disconnect the appliance from the mains.

(Fig.19)

In the case of a regular operation of a condensation unit it is necessary to replace the filter inside the filter with automatic desludging.

- Release a safety lock (1) on the filter vessel by its pulling downwards, slightly rotate the filter cover (2) to the left and take it out.
- Unscrew the filter holder (3) by its rotation to the left.
- Replace the filter and fix the new one by rotation of the holder to the right back on the filter body.
- Replace the filter cover and secure it by turning to the right until the safety pin locks.

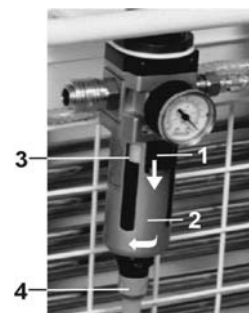


Fig.19

15. STORAGE

If the compressor will not be used for a prolonged time period, drain any condensate from the air tank. Then turn on the compressor for 10 minutes, keeping the drain valve open (1) (Fig.14, Fig.15). Switch off the compressor by switch (3) at pressure switch (2) (Fig.13), close the drain valve and disconnect the appliance from the mains.

16. DISPOSING OF THE APPLIANCE

- Disconnect the appliance from the mains.
- Release air pressure in the pressure tank by opening the drain valve (1) (Fig.14, Fig.15).
- The components of the product are non-toxic.
- Dispose of the appliance following all environmental regulations.

17. REPAIR SERVICE

Guaranteed and post-guarantee repairs must be done by the manufacturer, its authorized representative, or service personnel approved by the supplier.

The manufacturer reserves the right to make changes to the appliance without notice. Any changes made will not affect the functional properties of the appliance.

18. SOLVING PROBLEMS

Caution! Before proceeding, depressurize the air tank to zero and disconnect the appliance from the mains.

Troubleshooting can be performed only by qualified personnel.

FAILURE	POSSIBLE CAUSE	REMEDY
Compressor does not start	No voltage in pressure switch Disconnected winding of motor, damaged thermal protection Faulty capacitor Seizure of piston or another rotary part Pressure switch does not switch on	Check voltage in socket Check fuse – replace faulty one Loosen terminal – tighten it Check power cord – replace faulty one Replace motor or re-wind it Replace capacitor Replace damaged parts Check the function of pressure switch
Compressor often switches on	Air leak in pneumatic distribution system Leaking check valve Greater volume of condensed liquid in pressure vessel	Check pneumatic distribution system – seal loose joint Clean valve, replace seals, replace valve Drain condensed liquid
Prolonged running of compressor	Air leak in pneumatic distribution system Worn piston ring Contaminated input filter and prefilter Defective solenoid valve	Check pneumatic distribution system – seal loose joint Replace worn piston ring Replace contaminated filters with the new ones Repair or change the valve
Compressor is noisy (knocking, metal noises)	Damaged bearing of piston, piston rod, motor bearing Loose or cracked spring	Replace damaged bearing Replace damaged spring
Dryer doesn't dry (condensed water in the tank)	inoperative cooler ventilator	replace ventilator check supply of electric energy
	Damaged dryer	Replace dryer
	Dirty automatic condensate drain on filters	clean / replace
	Dirty filter and micro-filter elements	Replace old elements with new elements

The internal surfaces of the air tank must be cleaned and all condensed liquid must be removed after a dryer failure.

Check the dew point of the air leaving the air tank (see Chapter 5 - Technical Data) in order to protect connected equipment from damage!



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ПРОИЗВОДИТЕЛЬ:
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FABRICANT:
PRODUCENT:
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