

OIL-FREE

AIR FOR LIFE

DK50 DK50-10 DK50 PLUS



INSTALLATION, OPERATION AND MAINTENANCE MANUAL

EN

ekom[®]

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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 the appliance and its packaging, 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 electric voltage
	Read the user manual!
	CE mark of compliance
	Caution! Hot surface
	Compressor is remote-controlled and may start without warning
	Earth (ground) connection
	Terminal for ground connection
	Fuse
	Alternating current
	Handling mark on package – FRAGILE
	Handling mark on package – THIS SIDE UP
	Handling mark on package – KEEP DRY
	Handling mark on package – TEMPERATURE LIMITATIONS
	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 Z	DK50 S	DK50-10 Z	DK50-10 S	DK50 PLUS	DK50 PLUS S
Nominal voltage / frequency (*) V / Hz	230 / 50 230 / 60 110 / 60	230 / 50 230 / 60 110 / 60	230 / 50 230 / 60 110 / 60	230 / 50 230 / 60 110 / 60	230 / 50 230 / 60 110 / 60	230 / 50 230 / 60 110 / 60
Efficiency of compressor at over-pressure 5 bar Lit.min ⁻¹	75	75	75	75	75	75
Efficiency of compressor with dryer at over-pressure 5 bar Lit.min ⁻¹	-	-	60	60	60	60
Efficiency of compressor with KJF-1 at over-pressure 5 bar Lit.min ⁻¹	75	75	75	75	75	75
Maximal current A	3.4 4.3 8.6	3.4 4.3 8.6	3.4 4.3 8.6	3.4 4.3 8.6	3.4 4.3 8.6	3.4 4.3 8.6
Maximal current of compressor with dryer A	-	-	3.6 4.5 8.8	3.6 4.5 8.8	3.6 4.5 8.8	3.6 4.5 8.8
Motor performance kW	0.55	0.55	0.55	0.55	0.55	0.55
Air tank capacity Lit.	5	5	10	10	25	25
Pressure range(**) bar	4.5 – 6.0	4.5 – 6.0	4.5 – 6.0	4.5 – 6.0	4.5 – 6.0	4.5 – 6.0
Maximum operating pressure of safety valve bar	8.0	8.0	8.0	8.0	8.0	8.0
Sound level L _{ptA} [dB]	≤ 65	≤ 45	≤ 65	≤ 45	≤ 66	≤ 47
Mode of operation	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	intermittent S 3 –60%	continual S 1	continual S 1
Dimensions of compressor / of compressor with dryer W x L x H mm	290x430x490 /-	380x525x575 /-	330x430x530 / 330x580x570	420x525x620 / 420x675x620	460x460x690 / 460x515x690	560x665x860
Weight of compressor / of compressor with dryer kg	34/ -	46/-	36/42	49/55	48 / 54	83 / 90
Drying point of compressor Atmospheric condensation point	-	-	to -20°C	to -20°C	to -20°C	to -20°C
Version EN 60 601-1	Type B, class I.					

Notices:

- * When ordering, state the version of compressor
- ** Range of pressure: consult with contractor
- Weight of compressor with KJF-1 increase about 3kg

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%

5.1. FAD efficiency correction for differences in elevation

FAD correction table

Elevation [mamsl]	0 - 1500	1501 - 2500	2501 - 3500	3501 - 4500
FAD [l/min]	FAD x 1	FAD x 0.8	FAD x 0.71	FAD x 0.60

FAD efficiency refers to conditions at an elevation of 0 mamsl:

Temperature: 20°C
 Atmospheric pressure: 101325 Pa
 Relative humidity: 0%

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 Z and DK50-10 Z - sit on a free-standing base.

Dental compressors DK50 Z/K and DK 50-10 Z/K - sit on a free-standing base and feature a condensation and filtration unit (KJF1.)

Dental compressors DK50-10 Z/M - sit on a free-standing base and feature a membrane dryer.

Dental compressors DK50 S and DK50-10 S - feature compact soundproof boxes suitable for placing in a dentist's office.

Dental compressors DK50 S/K and DK50-10 S/K - feature compact boxes and a condensation and filtration unit (KJF1).

Dental compressors DK50-10 S/M - feature compact boxes and feature a membrane dryer.

Dental compressors DK50 PLUS - sit on a free-standing base

Dental compressors DK50 PLUS/K - sit on a free-standing base and feature a condensation and filtration unit (KJF1.)

Dental compressors DK50 PLUS/M - sit on a free-standing base and feature a membrane dryer.

Dental compressors DK50 PLUS S - feature compact soundproof boxes suitable for placing in a dentist's office.

Dental compressors DK50 PLUS S/K - feature compact boxes and a condensation and filtration unit (KJF1).

Dental compressors DK50 PLUS S/M - feature compact boxes and feature a membrane dryer.



DK50 Z

DK50-10 Z

DK50-10 S

DK50 PLUS

DK50 PLUS S



KJF1

MEMBRANE
DRYER

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)

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.2, Fig.3)

The compressor unit (1) pulls in outside air through the inlet filter (8) and compresses it through the cooler (14), filter (19) and micro-filter (18) 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 (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.4)

The soundproof box is compact yet allows sufficient exchange of cooling air. It can be placed in a dentist's office. The ventilator under the aggregate of a compressor provides cooling of compressor and it is in operation at the same time with an engine of the compressor. After prolonged use the temperature in the case may rise above 40°C, causing the cooling fan blower to automatically turn on. After cooling the case area to 32°C the fan blower turns off automatically. Door of the casing with right opening may be changed to left opening (see Chapter 9).

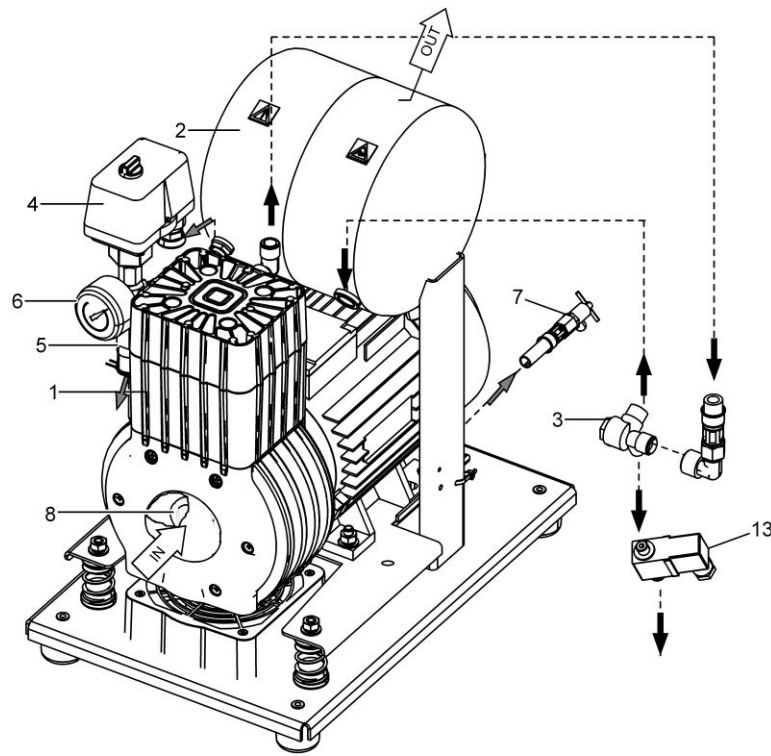


Make sure that nothing impedes the free flow of air under and around the compressor. Never cover the hot air outlet on the top back side of the case.



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



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. Cooler
15. Check valve
16. Output valve
17. Fan
18. Micro-filter
19. Filter
20. Bottle
21. Stopper
22. Compressor handle
23. Door pin
24. Box
25. Lock
26. Connecting reinforcement
27. Wall stopper
28. Switch
29. Manometer
30. Magnetic bottle holder
31. Door hinge
32. Wheels
33. Socket on the box
34. Rectification screw
35. Hose of manometer

Fig. 2 - Compressor DK50-10 Z/M

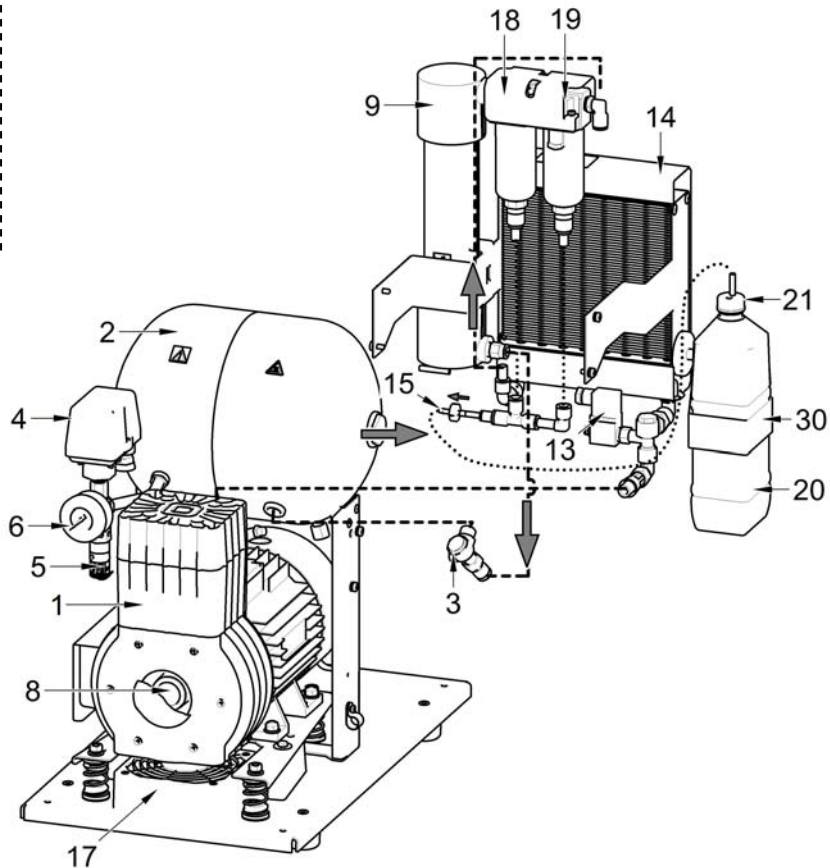
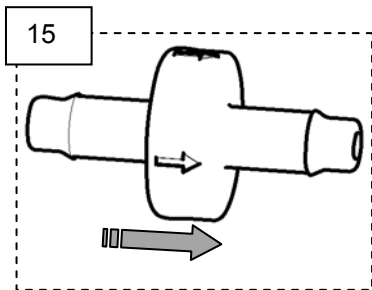


Fig. 3 - Compressor with membrane dryer

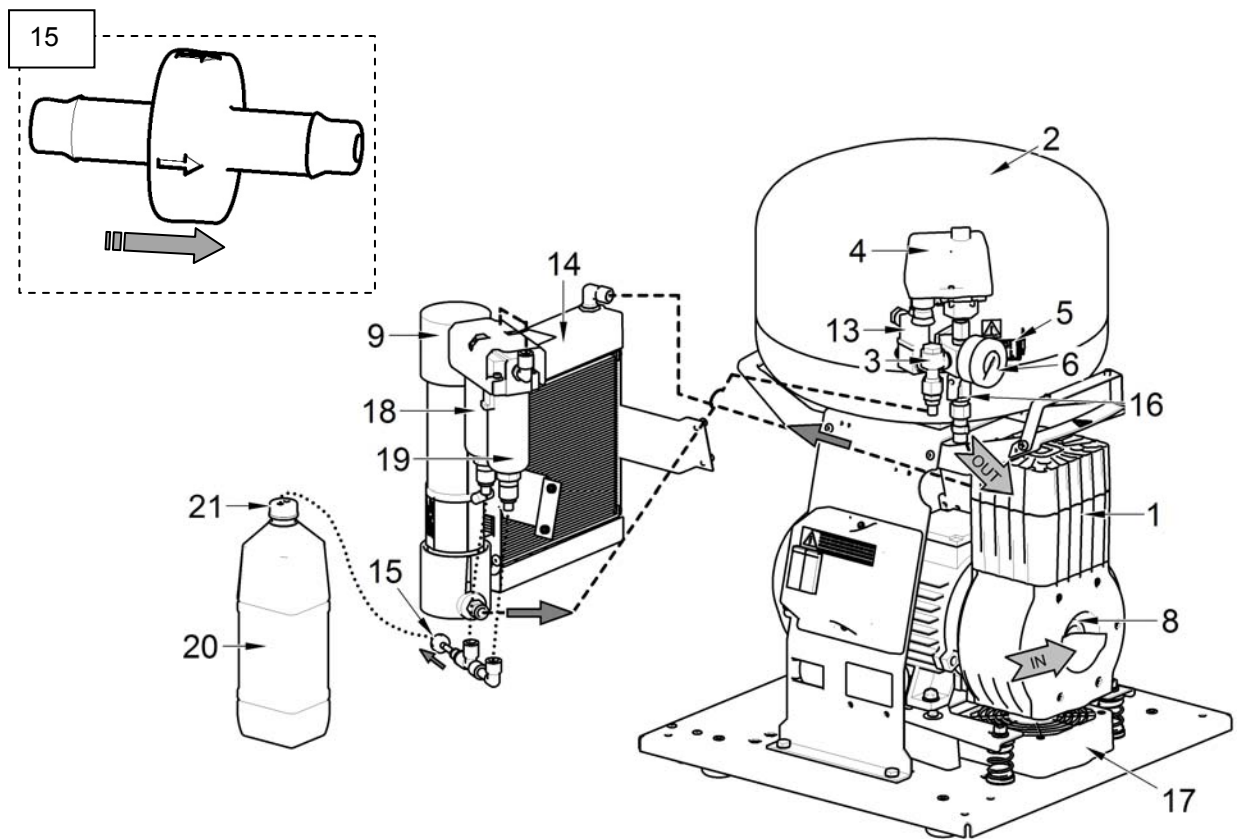


Fig.4 - Compressor with membrane dryer

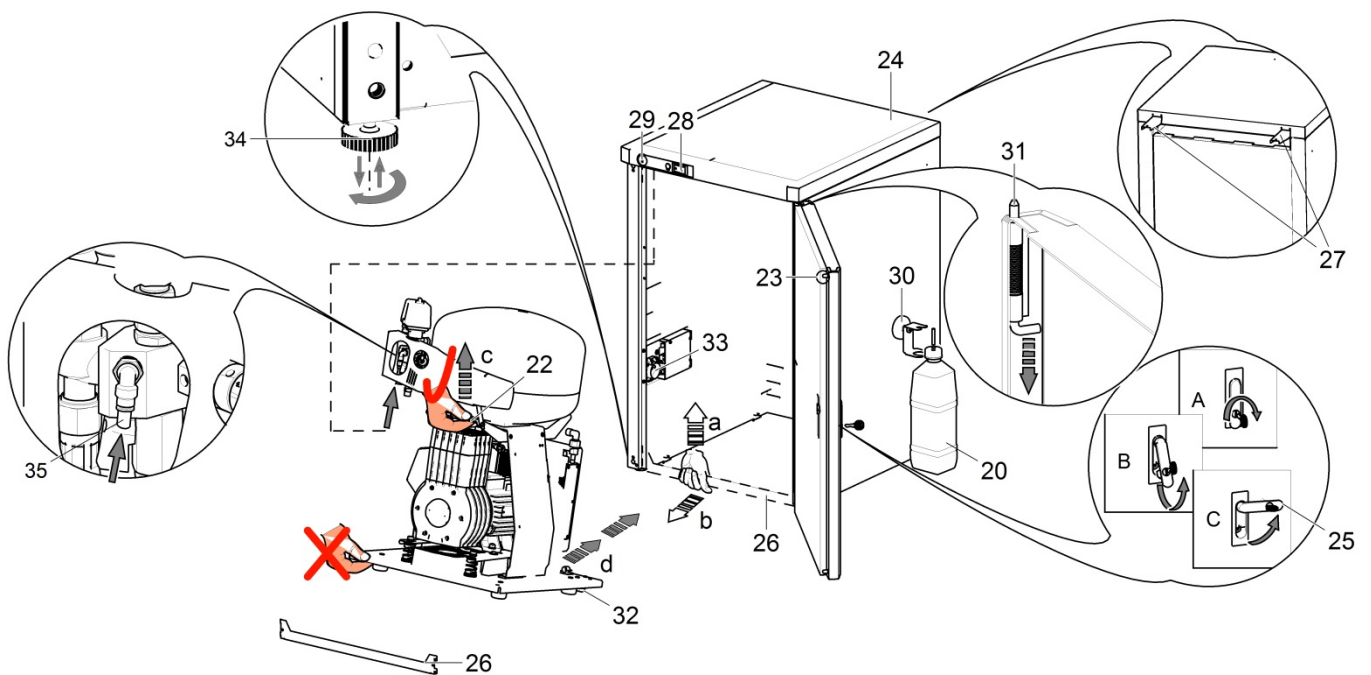
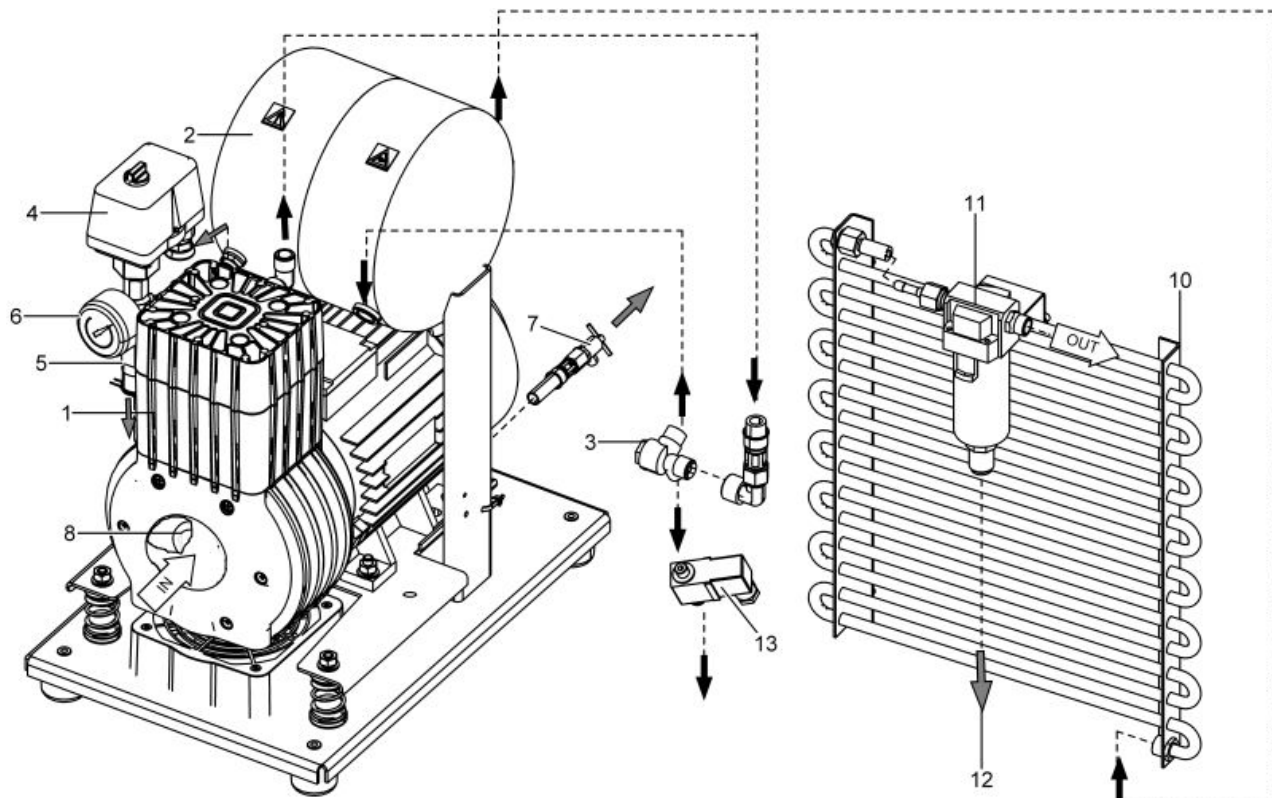


Fig.5 - Compressor with condensation and filtration unit KJF1



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%. The compressor must be installed so that it is accessible at all times for operating and maintenance. Please ensure that the appliance label is accessible as well.
- 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.

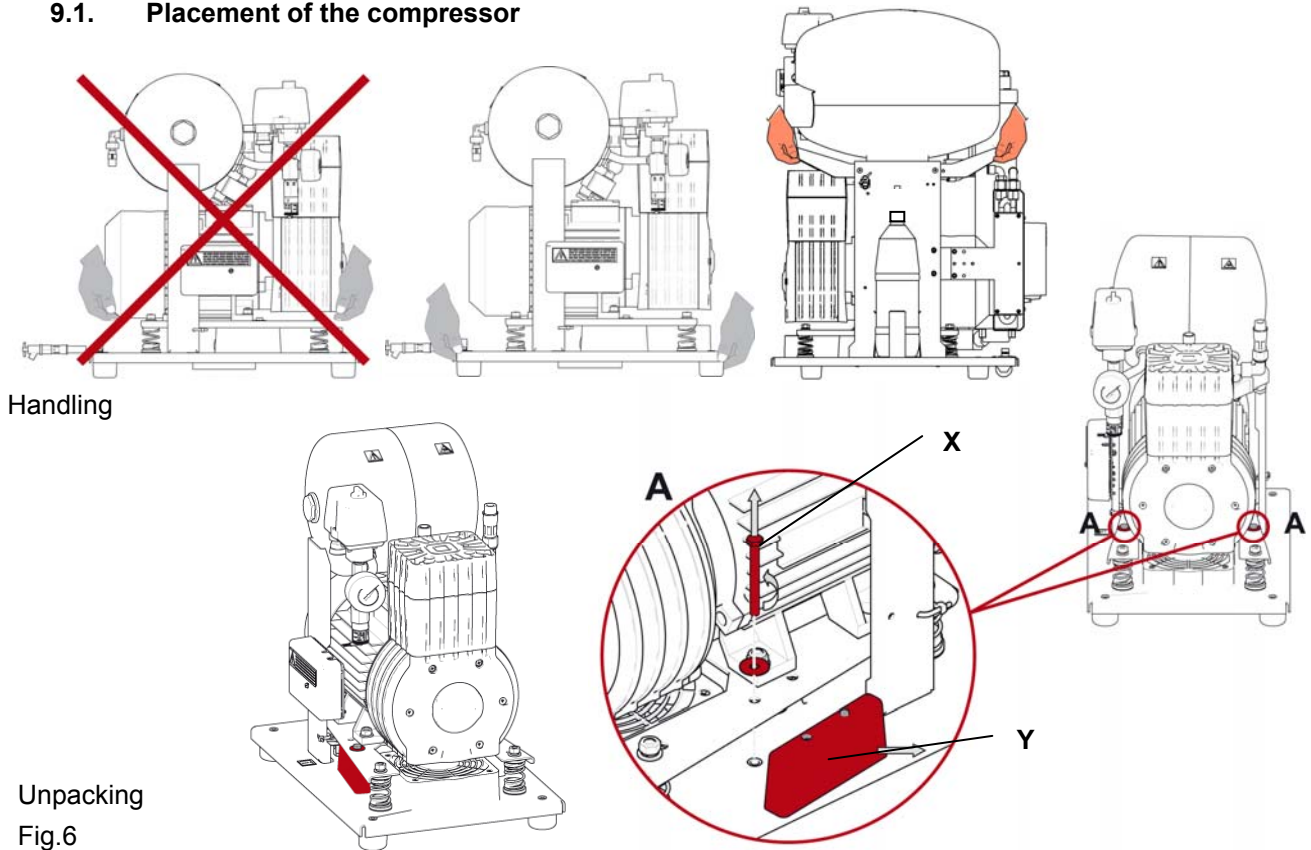


Prior to installation, ensure that the compressor is free of all transport packaging and stabilizers to avoid any risk of damage to the product.



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

9.1. Placement of the compressor



Dental compressor with base DK50 Z, DK50-10 Z, DK50 PLUS (Fig.6)

After removing all packaging material, place the product on the floor and remove stabilization parts X and Y (Detail A). Direct the output pressure hose, drain hose and power cord out the back of the compressor.

Dental compressor with base DK50-10 Z/M (Fig.2, Fig.6)

After removing all packaging material, place the product on the floor and remove stabilization parts X and Y (Detail A). Direct the output pressure hose and power cord out the back of the compressor. Install the magnetic holder (30) with a vessel (20) to capture condensate from the dryer on the side of the cooler.

Dental compressor in box DK50 S, DK50-10 S (Fig.6)

After removing all packaging material, place the product on the floor and remove stabilization parts X and Y (Detail A). Direct the output pressure hose, drain hose and power cord out the back of the compressor. Slide the box over the compressor so that the front face of the box matches the front part of the compressor and the box is fully seated. Make sure that the pressure hose, drain hose and electric cord come out via the opening at the back of the box. Position the drain hose with its valve in the holder at the rear of the box.

Dental compressor in box DK50-10 S/M (Fig.6)

After removing all packaging material, place the product on the floor and remove stabilization parts X and Y (Detail A). Direct the output pressure hose, drain hose and power cord out the back of the compressor. Fit the housing over the top of the compressor, connect the flexible shaft to the control button, fasten with the screw and put the lid on the cabinet housing (see picture). Make sure that the pressure hose, drain hose and electric cord come out via the opening at the back of the box. Connect the condensate drain hose to the vessel (20). The magnetic holder (30) with a vessel (20), for entrapping condensate from a dryer may be fixed at the sides of housing or from the front on its doors. 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 must always be installed so that the lower section is near the floor; any other installation may damage the dryer!

Dental compressor with base DK50 PLUS/M (Fig.6)

After removing all packaging material, place the product on the floor and remove stabilization parts X and Y (Detail A). Direct the output pressure hose and power cord out the back of the compressor. Connect the condensate drain hose to the vessel (20). Install the tank into the bracket on the compressor.

Dental compressor in box DK50 PLUS S (Fig.4, Fig.6)

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 (27) - 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 (26) in the front bottom part of housing. If necessary, the door may be disassembled using door hinge (31). 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 (32). Fix the hose of a manometer in a hose into the fast-on coupling on a compressor, put the connecting reinforcement (26) back and connect the pressure hose to a compressor. Insert the electric power cord of a compressor into a socket (33) on a housing. By slight rotation of rectification screws (34) set the correct position of door against the casing frame. When closing the door the pin (23) on the door must easily snap in the opening in the casing frame. Close the housing doors and duly lock the lock (25). 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 PLUS S/M (Fig.4, Fig.6)

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 (20). The magnetic holder (30) with a vessel (20), for entrapping condensate from a dryer may be fixed at the sides of housing or from the front on its doors. 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 must always be installed so that the lower section is near the floor; any other installation may damage the dryer!

9.2. Compressed air outlet

(Fig.7)

At the compressed air outlet (1) of the compressor, connect the pressure hose with a nut (2) and fasten clip (3). Connect the hose to the dental appliance.

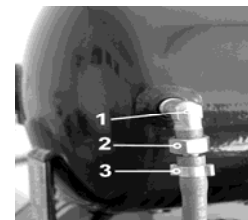


Fig.7

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.

- 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.

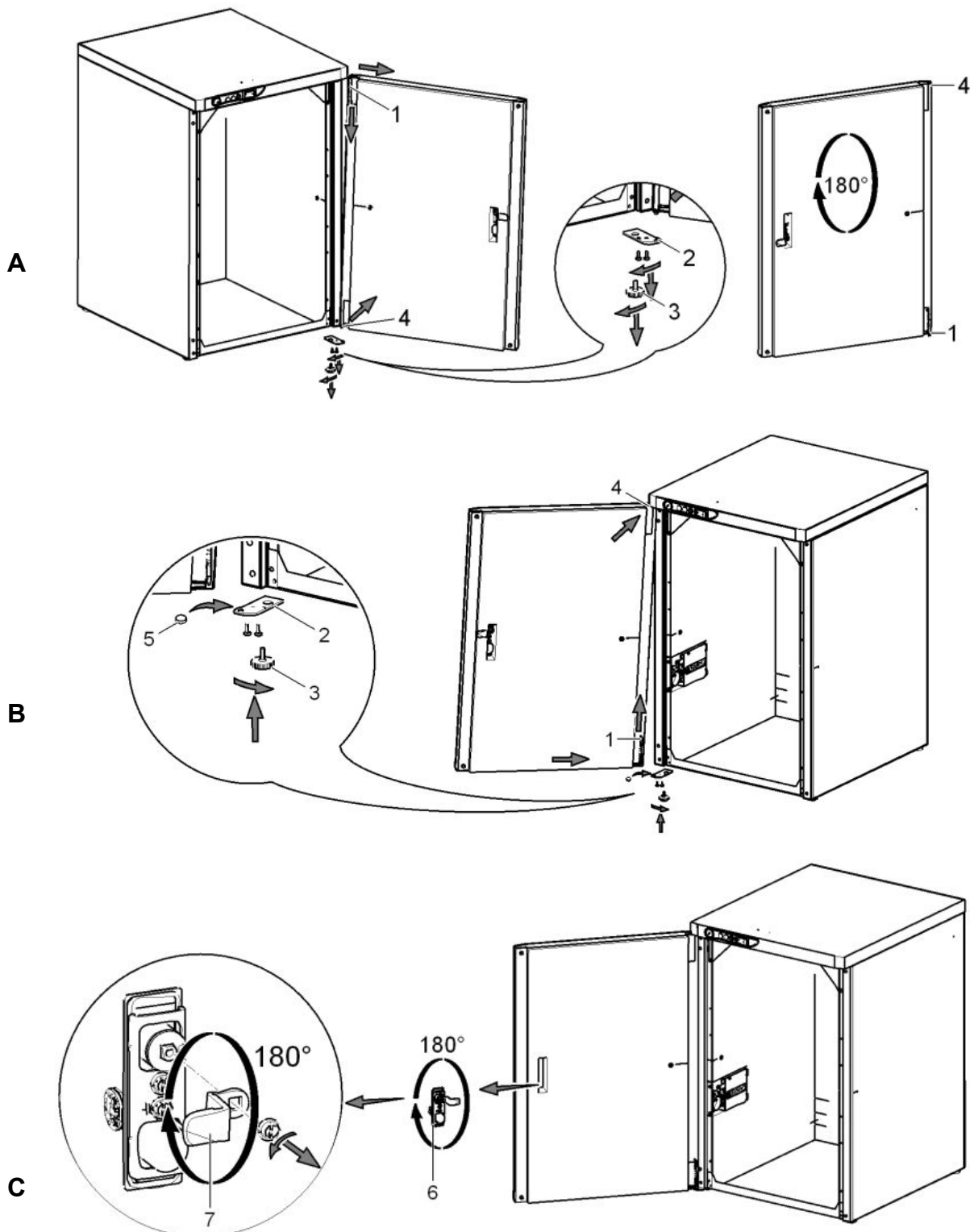


Electrical cable may not contact the hot parts of a compressor. Insulation could be damaged!

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

9.4. Change in the door opening

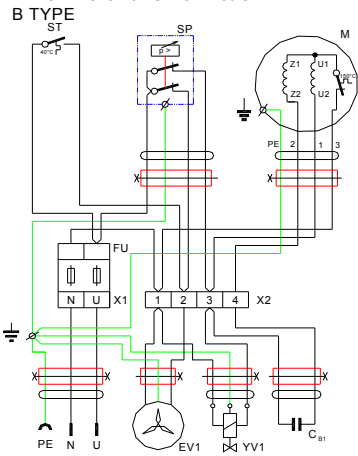
- Disassemble the door, rectification screw (3) and the holder (2) of the hinge D (4).
- Mount holder of the hinge D to the left side of the casing.
- Rotate the door by 180°.
- Insert a spacer (5) between the hinge H(1) and the bottom side of the door.
- Mount the door.
- Disassemble the lock (6) on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

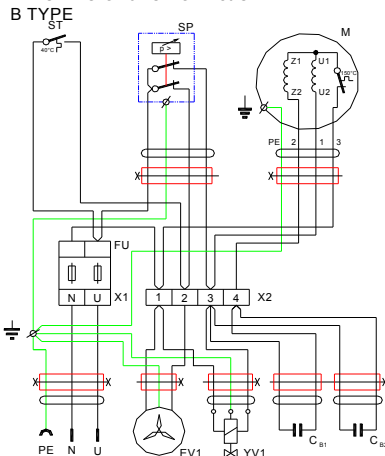
DK50 Z, DK50-10Z, DK50 S, DK50-10S

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



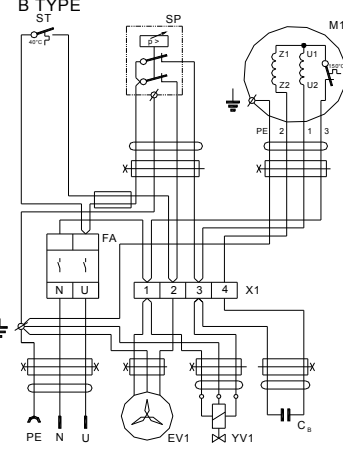
DK50 Z, DK50-10Z, DK50 S, DK50-10S

1/N/PE ~ 110 V 60 Hz
ELECTRIC OBJECT OF 1st CAT.



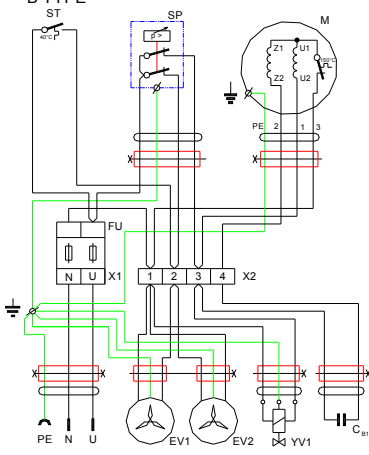
DK50 PLUS

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



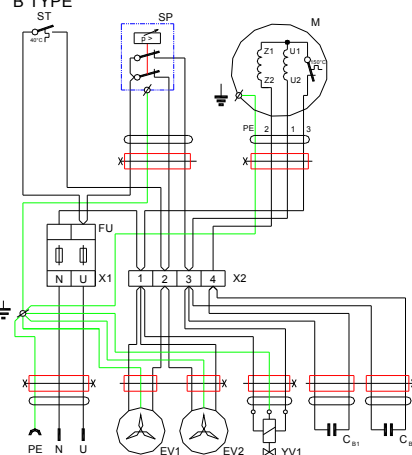
DK50-10Z/M, DK50-10S/M

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



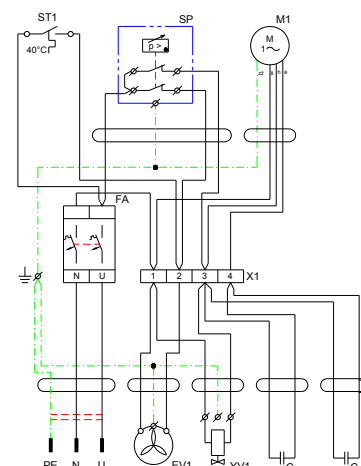
DK50-10Z/M, DK50-10S/M

1/N/PE ~ 115 V 60 Hz
ELECTRIC OBJECT OF 1st CAT.



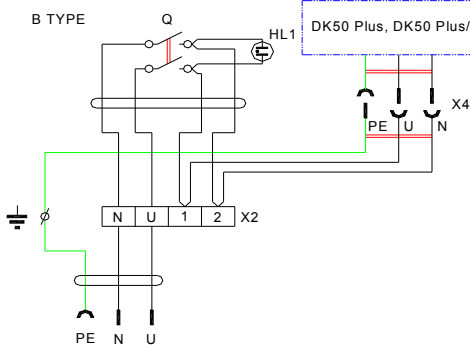
DK 50 Plus

1/N/PE ~ 115V 60Hz
ELECTRIC OBJECT OF 1st CAT.



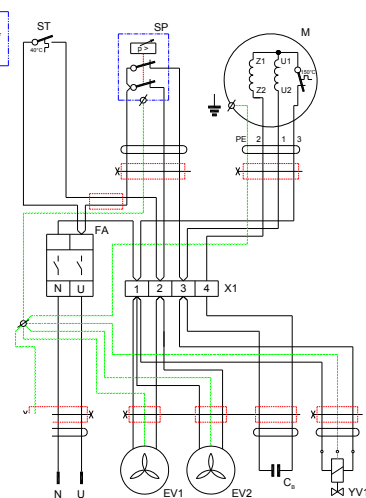
DK50 Plus S

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



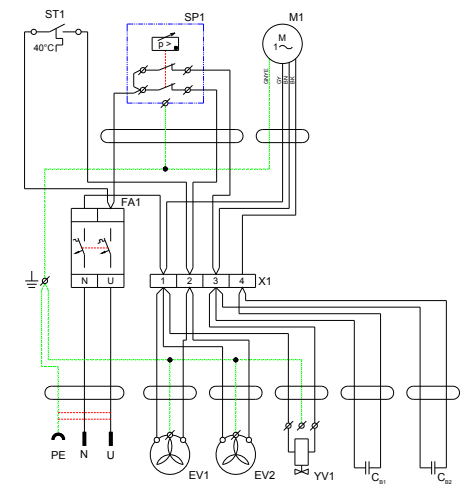
DK50 PLUS/M

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



DK50 PLUS/M

1/N/PE ~ 115V 60Hz
ELECTRIC OBJECT OF 1st CAT.



- M Motor of compressor
- EV1 Fan of compressor
- EV2 Fan of dryer
- YV1 Solenoid valve of compressor
- FU Fuses 230/50-60 (T10A)
110/50-60 (T16A)
- ST Thermo switch
- CB1,CB2 Capacitor
- SP Pressure switch
- Q Switch

- X1,X2 Terminal
- X4 Connector
- FA Breaker
- HL1 Glowlamp

11. FIRST OPERATION

(Fig.8)

- 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 DK50 PLUS S turn the switch (28) (Fig.4) 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-1 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.8)

Switch on the compressor at the pressure switch (2) by turning the knob (3) to position “I.” (for DK50 PLUS S switch on also switch (28) Fig.4, 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 ±10%. Air pressure in air chamber must not exceed maximal permitted operation pressure.

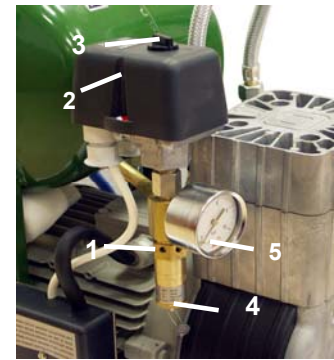


Fig.8



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	Release condensate - At high air humidity		operating staff
1 x week	- Compressor without air drier Compressors with air drier Compressors with condensation unit : - from filter - from pressure vessel	14.1	
1 x year	Check safety valve	14.2	qualified technician
	Replacement of filter element in filter and micro-filter	14.4 14.5	operating staff
	Replacement of filter in condensation unit	14.6	qualified technician
	Check tightness of joints Overall examination of device	Service documentation	qualified technician
	Clean the cooler ribs and the fan	14.7	qualified technician
1 x 2 years	Perform “Repeated Test” according to EN 62353	13	qualified technician
1 x 4 years or after 8000 hours	Replacement of input filter	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).

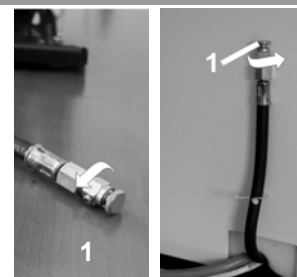
TO ENSURE THAT THE COMPRESSOR WORKS CORRECTLY, PERFORM THE FOLLOWING MAINTENANCE TASKS AT REGULAR INTERVALS (CHAPTER 13):.

14.1. Condensation drain valve

Compressors (Fig.9, Fig.10)

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 PLUS 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.9



DK50

Compressors with condensation and filtration unit (Fig.14)

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.10



DK50 PLUS

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 compressor models DK50 S, DK50-10 S and DK50-10S/M the case must be removed before beginning the following procedures.

For DK50 PLUS S, DK50 PLUS S/M - unlock the lock on the door and open the housing door (Fig.4)

14.2. Safety valve check

(Fig.8)

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.

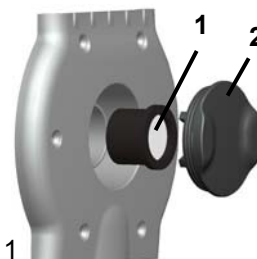
14.3. Replacement of input filter

(Fig.11)

It is necessary to replace the input filter (1) located in the lid of crank box of a compressor.

- Pull out the rubber plug (2) using a hand.
- Take out the used and contaminated filter.
- Insert new filter and put on a rubber plug.

Fig.11



14.4. Replacement of filter element in filter

(Fig.12)

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.12

Filter	Order number	Filter insert	Order number
AF30 F02C 6 A PU	025200276-000	AF 30P-060S 5 µm	025200061-000

14.5. Replacement of filter element in micro-filter

(Fig.13)

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



Fig.13

Micro-filter	Order number	Filter insert	Order number
AFM30-F02C-6-A-PU	025200277-000	AFM 30P-060AS 0,3 µm	025200076-000

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.14)

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.

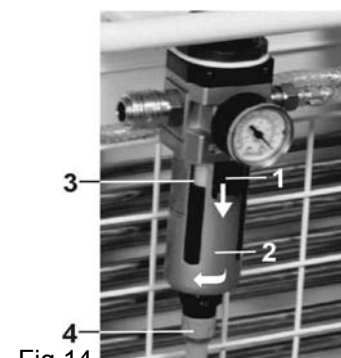


Fig.14

14.7. Clean the cooler ribs and the fan

For permanently high efficiency, it is necessary to maintain the whole equipment and especially the cooler's fan and the cooler itself clean – 1x year suck or blow settled dust out with compressed air from the surface of the cooling ribs and the fan.

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.9, Fig.10). Switch off the compressor by switch (3) at pressure switch (2) (Fig.8), 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.9, Fig.10).
- 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.

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.

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 Defective solenoid valve	Check pneumatic distribution system – seal loose joint Replace worn piston ring Replace contaminated filter with the new one 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!



DK50

DK50-IO DK50 PLUS



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