INSTRUCTION HANDBOOK
Dehumidifier

Original manual
057614-21 / March 2020

TK30/TK60

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1 GENERAL NOTES

You have purchased a KROLL dehumidifier, a product of high quality. If, however, there should be complications, you will find in the following some instructions how to fix the problems as easily as possible.

ATTENTION!

- *Check your dehumidifier for transport damages right at receipt! If you find any damages, please inform the truck driver and note it on the delivery note before signing it!*
- *If you find a damage after unpacking the unit, please contact immediately your responsible salesman or KROLL dealer.*
- *Please read this manual carefully before you start operating the unit for the first time. This makes sure that the unit will work without any problems for a long time and saves you unnecessary costs for repairing it.*
- *If the unit does not work properly, switch it off and take off the mains plug in order to avoid that it starts working again by itself.*
- ***Please keep the carton box in order to be able to send back the unit safely in case of problems! You can simply rip the adhesive tape with a knife and fold the carton up.***

2 CONSTRUCTION AND FUNCTION OF THE DEHUMIDIFIER

The TK dehumidifier is exclusively designed for dehumidifying a closed room. The unit can prevent the creation of condensation water, remove a too high air humidity or keep the air in the room at a constant humidity level. The time the unit will need to dry the room and the degree of air humidity which can be reached using the unit depend both on many factors in the room where the unit is placed.

The TK dehumidifier works according to the condensation principle with heat recovery. The fan (see exploded view) takes in the humid air through a cooling register (evaporator). Here, the air is cooled down below its dew point so that the water vapour of the air condensates to water and flows into the water collecting tank. The cooled and dried air is heated up again at the condenser. Due to the heat pump effect, the outlet air is some degrees warmer that the intaken air, which leads to an energy gain that can be three times the electric power consumption. By the permanent circulation of the ambient air through the appliance, the absolute humidity of the air is decreased continuously. The surplus humidity is taken away in a gentle and efficient way.

3 SAFETY

The dehumidifiers TK30/TK60 are equipped with safety devices. The units have been tested for safety. Wrong use or misuse may cause damage to:
• the user,
• the dehumidifier and other things in the same room,
• the efficient operation of the dehumidifier.

All persons who are in charge of installation, commissioning, operation, maintenance and service of the unit must

• be properly qualified,
• follow the manual's instructions carefully.

Proper use

The dehumidifiers must only be used in order to dry room air.

Dangers caused by accessories

Condensate hoses and air filters must be installed properly and must not put the safety devices out of operation. The control elements must always be freely accessible.

Permitted users

The dehumidifiers TK30/TK60 must only be operated by persons who have been authorized and trained by the owner. The operator is responsible for third persons on site.

The responsibilities for the different actions at the unit must be clearly defined and be observed. Unclear competences are a safety risk!

The owner must

- make the manual accessible for the operator
- make sure that the operator has read and understood the manual

ATTENTION!

The unit must not be used under the following conditions:

- In rooms with a potentially explosive atmosphere.
- In rooms with a potentially aggressive atmosphere (e.g. ammoniac, acetic acids etc.).
- In rooms with water of a pH-value of < 7,0 or > 7,4.

  Note: With a pH-value of less than 7,0, there is the danger of corrosion for all metal parts and dama ges for grout-containing substances. A pH-value of more than 7,4 will cause skin and mucosa irritations and an increased creation of limescale.
- In rooms with a high concentration of solvents.
- In rooms with an extremely high concentration of dust.

4 GENERAL SAFETY INSTRUCTIONS

• This appliance can be used by children aged from 8 years and above and persons with
reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

• Children shall not play with the appliance.

• Cleaning and user maintenance shall not be made by children without supervision.

• Do not cover the unit during the operation.

• The unit must be placed in a way that the air can circulate through it freely. The air filter and the lamellas of the front panel must be kept free. Keep a free space of 1 m from the lamellas and the front panel.

• Before moving the unit, switch it off by pushing the ON/OFF switch, take off the mains plug and empty the drip pan!

• Protect Power Cord from Damage: Never operate a unit with a damaged power cord, as this may lead to electrical or fire hazards. If the power supply cord is damaged, it must be replaced by a cord of the same type and amperage rating.

5 INSTALLATION AND TRANSPORT

The dehumidifiers TK are designed for mobile use. For installation and transport, please consider the following points:

- The unit must be placed in a way that the air can circulate through it freely. The air filter and the lamellas of the front panel must be kept free. Keep a free space of 1 m from the lamellas and the front panel.
- Before moving the unit, switch it off by pushing the ON/OFF switch, take off the mains plug and empty the drip pan!
- The unit must only be moved by using its handle and wheels!
- The unit must be installed on a plane surface, otherwise it must be secured against rolling off.
- The unit may be transported in upright or horizontal position. If possible, upright transport is recommended!
- The unit must only be used for dehumidifying.

ATTENTION!
The unit must not be pulled around at the mains plug!

6 ELECTRICAL CONNECTION

Before connecting the unit to the mains supply, please check the following points:

- ✓ Is the mains voltage the same as the unit's voltage?
- ✓ Are the mains socket and the mains power supply protected properly?
- ✓ In case of installation in a swimming hall: is the necessary ground fault circuit interrupter installed?
- ✓ If a cable drum is used, it must be unrolled completely.
- ✓ Is the unit's mains plug suitable for the building's mains socket?
- ✓ Does the building's mains socket have a proper earthing?

ATTENTION!
Before commissioning of the dehumidifier, its technical data must be compared with the conditions on site!

7 OPERATION

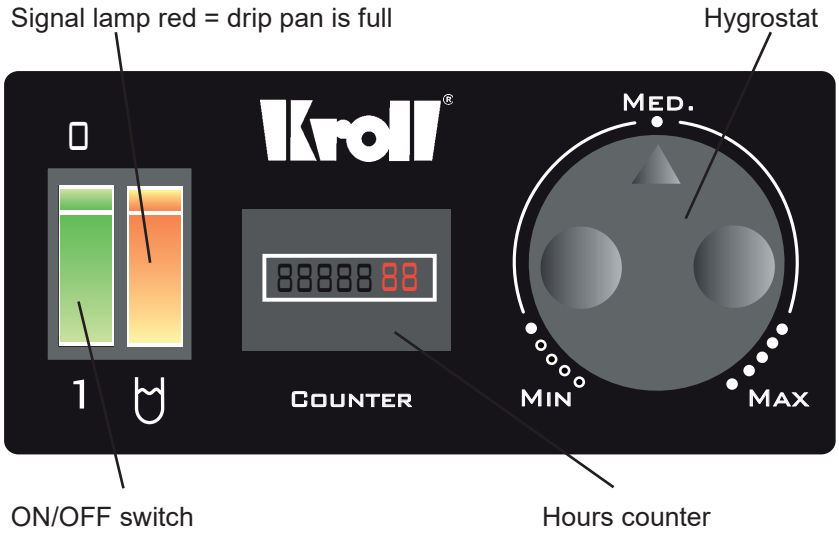
7.1 COMMISSIONING

ATTENTION!
Before commissioning the unit, read the manual carefully in order to avoid damages caused by improper operation or local conditions.

WARNING!
Fire danger/material damage and unit damage!
The unit TK30 contains the eco-friendly but flammable refrigerant R290. (TK60 / R454C)
Keep naked flame and ignition sources away from the unit.

In order to make the dehumidifier run, please stick to the following steps:

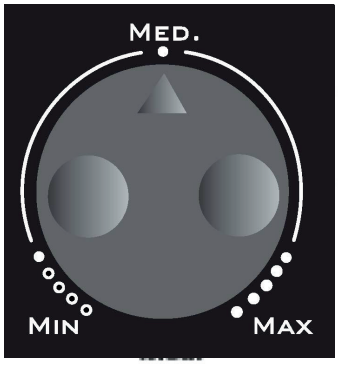
- ✓ After any transport, the unit should stand still for about 15 minutes. During that time, the oil which has distributed into the cooling system and become foamy due to the transport will flow back into the compressor. We recommend this in order to extend the cooling machine's lifespan.
- ✓ Put the mains plug into the mains socket.
- ✓ Check if the drip pan is installed or if a hose for the evacuation of the condensation water is fixed and installed properly.
- ✓ Turn on the unit using the ON/OFF switch. It is located at the right side panel of the unit and has to light red when the unit is on.
- ✓ Set the desired value of humidity at the hygrostat (see hygrostat control).
- ✓ The unit will start automatically if the set value is lower than the actual degree of humidity in the room.
- ✓ The unit will not start if the set value is higher than the actual degree of humidity in the room.



7.2 HYGROSTAT CONTROL

The dehumidifier type TK is equipped with a hygrostat to set a desired value of air humidity. It is placed at the rear of the unit, on the control panel. You can set the value using the flat setting knob. The hygrostat makes the dehumidifier start when the air humidity in the room is higher than the set value.

When the air humidity in the room drops below the set value, the hygrostat stops the dehumidifier.
The following operation options can be set via the hygrostat:



- The mark on the hygrostat points to position **„Min“**.
  The unit is turned off, no dehumidification process.
- The mark on the hygrostat points to position **„Med“**.
  The unit is dehumidifying.
  It will stop when an air humidity of about 50 – 66 % has been reached.
- The mark on the hygrostat points to **„Max“**.
  The unit is dehumidifying.
  A relative air humidity of up to 40 % can be reached.

ATTENTION!
The marks on the swelling curve and the indicated humidity values in the previous text are only guide values. The hygrostat of the dehumidifier and an eventual separate humidity sensor, placed somewhere in the room, will probably not show the same values. We recommend to change the settings of the dehumidifier until the desired room air humidity has been reached.

7.3 CONDENSATE DRAIN

The dehumidifiers type TK are equipped with a drip pan and connections for a 12 mm hose. If the unit is run with a drip pan, it will automatically stop when the drip pan is full, and the red signal lamp on the side panel will start lighting.

ATTENTION!
Before you take off the full drip pan, switch off the dehumidifier! This avoids condensate water to drop on the floor of the room that you wish to dry.

If a hose is used to evacuate the condensation water, please stick to the following steps:

- ✓ Take off the drip pan.
- ✓ Fix the hose carefully at the discharge nozzle at the bottom side of the defrosting pan. Do it carefully, without force!
- ✓ If possible, fix the hose carefully with a hose clamp. Do it carefully, without force!
- ✓ Lead the hose out of the unit via the unit’s rear side.

ATTENTION!
- *The end of the hose must be positioned lower than the beginning (discharge nozzle)!*
- *The hose must not be bended!*
- *Make sure that no objects are standing on the hose!*

7.4 AUTOMATIC DEFROSTING

During the dehumidification process, ice may form at the evaporator. The amount of ice being created depends on the local conditions in the room that you want to dry. The dehumidifier is equipped with an automatic defrosting device. This makes sure that the unit will start defrosting itself automatically, depending on the amount of ice. Defrosting will work as follows:

- The temperature sensor measures the situation at a critical position of the evaporator.
- It transfers the signal to the DryLogic which will then detect the necessity of defrosting and start defrosting. During defrosting, the compressor keeps on working, the fan does not work.
- After defrosting, the dehumidifier will start its normal operation again automatically.

8 CONDITIONS OF OPERATION

The dehumidifiers TK are suitable for operation on construction sites, in living buildings, in swimming halls, garages and warehouses. They will operate without any problems in a temperature range from +5° C to +32° C at relative humidity of 50 % to 90 %.

If you are not sure if the dehumidifier can work without problem on site due to local conditions, please contact KROLL or you dealer.

If the dehumidifier is operated under non suitable conditions, the warranty expires!

9 TROUBLESHOOTING

Problem	Pos.	Cause	Solution
The unit shows no or only a poor dehumidifying performance.	1	The ambient air humidity is below 40 % relative humidity.	Operating the dehumidifier at these conditions is uneconomic. We recommend to switch off the unit. **Hint**: Set the unit's hygrostat to an accessible value (e.g. 50 %) so the dehumidifier will turn off automatically in time.
	2	The air filter is strongly polluted.	The dehumidifier does not receive enough air any more. Clean the filter or replace it by a new one. A polluted air filter can damage the dehumidifier in the long run. **Hint**: Check the filter regularly.
	3	The ambient temperature is below +5° C.	Operating the dehumidifier at these conditions is uneconomic. Switch off the unit.
	4	There is some mistake in the cooling circuit of the dehumidifier.	An authorized service center has to repair the dehumidifier.

The automatic circuit breaker of the building's protection fuse interrupts the mains supply to the dehumidifier.	5	The building's fuse protection is too weak.	The building's fuse fuse protection has to be checked and/or be changed.
	6	There is an electrical problem in the dehumidifier's electric circuit.	The power supply of the dehumidifier must be interrupted (pull off the mains plug)! The defect must be repaired by an authorized service center.
The unit's fan is not working.	7	The dehumidifier is defrosting.	The dehumidifier will normally start working again automatically after a couple of minutes. If not, take the unit to an authorized service center (do not try to repair it by yourself!).
The noise level is louder than usually.	8	The filter holding device is not put on properly.	Put on the filter holding device properly.
	9	One or more screws of the casing are not tightened properly.	Tighten the loose screw(s) properly.
The dehumidifier is not working.	10	The dehumidifier is not switched on.	Switch the dehumidifier on.
	11	The degree of humidity set at the hygrostat has been reached.	The dehumidifier will turn on again automatically when the degree of humidity set on the hygrostat has been exceeded.
	12	The drip pan is full.	Take off the drip pan, empty it and remount it.
	13	The dehumidifier is defective.	An authorized service center has to repair the defect.
The dehumidifier creates too much ice at the cooling register (evaporator), a block of ice is created.	14	The room temperature was/ is temporarily or always below +30° C.	Put the dehumidifier into a room with at least +10° C and wait until the ice has completely defrosted. Then switch the unit on and let it run for about 3 hours. If ice is created again, contact your supplier. In general make sure that the unit is only used in rooms with at least +5° C room temperature. Ice may also be created if the unit is stored in a colder room and then switched on immediately.
	15	Maybe the automatic defrosting is defective.	Contact your supplier.

The dehumidifier does not reach the degree of humidity set on the hygrostat and/or does not switch off via the hygrostat.	16	The hygrostat has been set to a value below 45 % relative humidity.	A condensing dehumidifier can reach a value of minimum 40 – 45 % relative humidity, depending on the local conditions. Set the unit's hygrostat to an accessible value (e.g. 50 %) so the dehumidifier will turn off automatically in time.
	17	The unit is too small for the room.	The air change rate, the number of persons in a room and eventual open water surfaces determine how humid a room is. Let an authorized dealer calculate if the dehumidifier that you have chosen is really strong enough for the local conditions.
	18	There is extremely much humidity in the walls, floor etc.	In this case, the dehumidifier will need more time to remove the water and reach an acceptable value of humidity in the room.
	19	The hygrostat is defective.	Check the hygrostat: does the dehumidifier switch off automatically when you set the hygrostat to position "0"
	20	There is some mistake in the cooling circuit of the dehumidifier.	Check if water drops into the drip pan. If this is not the case although the unit's compressor has been working all the time, contact your supplier.

ATTENTION!

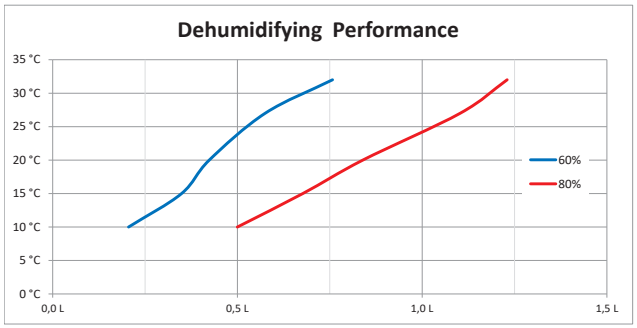
Only trained professional staff is allowed to repair the unit! During the warranty period, only the supplier or people authorized by the supplier are allowed to carry out operations at the dehumidifier, otherwise the warranty expires! If you have questions regarding defects or problems in operating a KROLL dehumidifier, we recommend to contact your dealer.

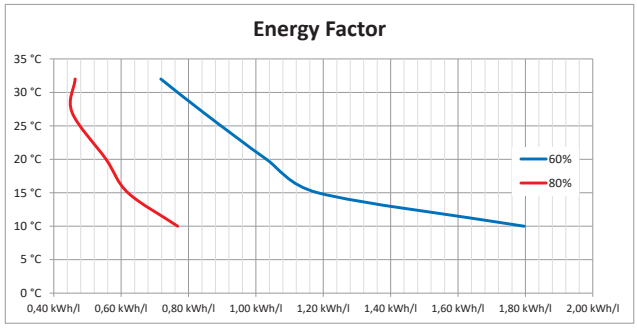
10 TECHNICAL DATA

	TK 30	TK 60
Range of application	+5 bis +32°C	+5 bis +32°C
	50% - 90% r.F.	50% - 90% r.F.
Supply voltage	230V, 50Hz	230V, 50Hz
Power consumption	0,57 kW	1,31 kW
Air delivery	580 m³/h	1000 m³/h
Dimensions (width/height/depth)	430x800x500 mm	520x980x560 mm
Weight	34 kg	40 kg
Refrigerant	R290	R454C
Refrigerant Amount	0,150 kg	0,650 kg
GWP	3	146
Equivalent tons of CO2	0,00045 t	0,09490 t
Hermetic system – Contains fluorinated greenhouse gases		
Protection class	IP21	IP21
Noise level	52 dB(A)	56 dB(A)
Temperature / relative humidity	Dehumidifying performance	
	in l/day	in l/day
10°C / 60% r.F.	5	12
20°C / 60% r.F.	10	25
32°C / 80% r.F.	30	60

There are many components built in within a dehumidifier, all of them have an influence of the unit's dehumidifying performance. As these components never can be identical, the actual dehumidifying performance may vary up to 5 % from the indicated values. **0**

TK30 (2020/02/24)





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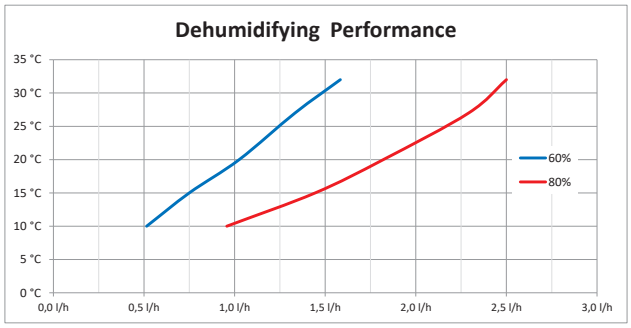
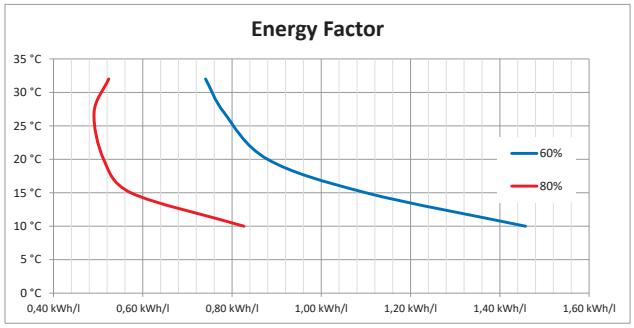




11 MAINTENANCE

ATTENTION!
During maintenance works, the general safety guidelines must be observed!

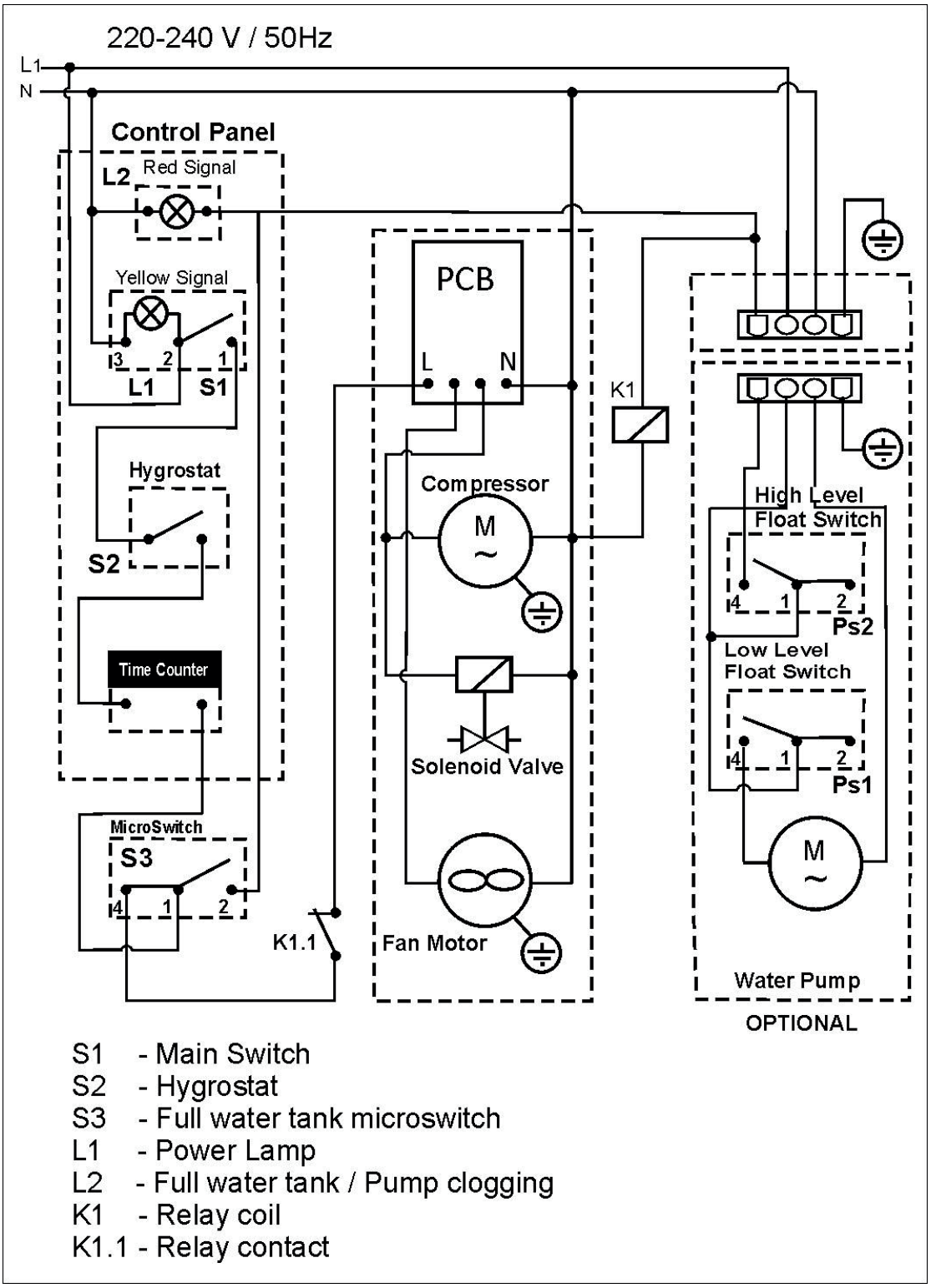
In order to ensure a trouble-free operation of the dehumidifier, it should be cleaned it regularly. We recommend to stick the following procedure:

- ✓ Switch off the dehumidifier
- ✓ Pull off the mains plug!
- ✓ Take off the filter protection
- ✓ Take off the filter, clean it or dispense it
- ✓ Dismount the front panel
- ✓ Clean the unit carefully with compressed air (wear protection glasses!). Make sure that all components are cleaned (compressor, heat exchanger etc.).
- ✓ Sight check: discharge nozzle and eventually connected hose
- ✓ Clean the casing from the outside with a humid towel (do not use aggressive detergents)
- ✓ Remount the front panel
- ✓ Mount the new/cleaned filter
- ✓ Mount the filter protection
- ✓ Plug in the mains plug
- ✓ Switch on the dehumidifier

This cleaning has to be done regularly – if the unit is used on construction site, it absolutely has to be done after every operation

There are no further maintenance works necessary with this type of dehumidifier.

12 WIRING DIAGRAM



Functional principle with drip pan

1. The dehumidifier works normally; the yellow lamp of the switch works I/0 (L1);
2. When the amount of water is reached (about 6 l), the compensator is activated (about 6 kg);
3. The dehumidifier turns off;
4. The red lamp (L 2) near the switch I/0 (L1) starts to glow to show that the drip pan is full;
5. As soon as the full drip pan is removed, the dehumidifier starts working again normally and the red lamp (L2) turns off.

Functional principle with drip pan

1. The dehumidifier works normally; the yellow lamp of the switch works I/0 (L1);
2. The capacity of the pump container is reached;
3. The dehumidifier keeps on working normally while the pump starts to pump the water into an external container;
4. The pump pumps all the water out of its container and turns off without influencing the dehumidifier's operation;

Note:
The steps 2, 3 and 4 repeat regularly while the dehumidifier is working!

5. Should the pump block, the float activates a micro switch and then a relay (K1) inside the pump's water container which turns off the dehumidifier; the red signal lamp (L2) starts to glow;

Note:

The operator should read the manual in order to understand why the red lamp (L2) is glowing when the pump is used. The manual indicated two situations: CONTAINER FULL or PUMP BLOCKED.

TK30/TK60

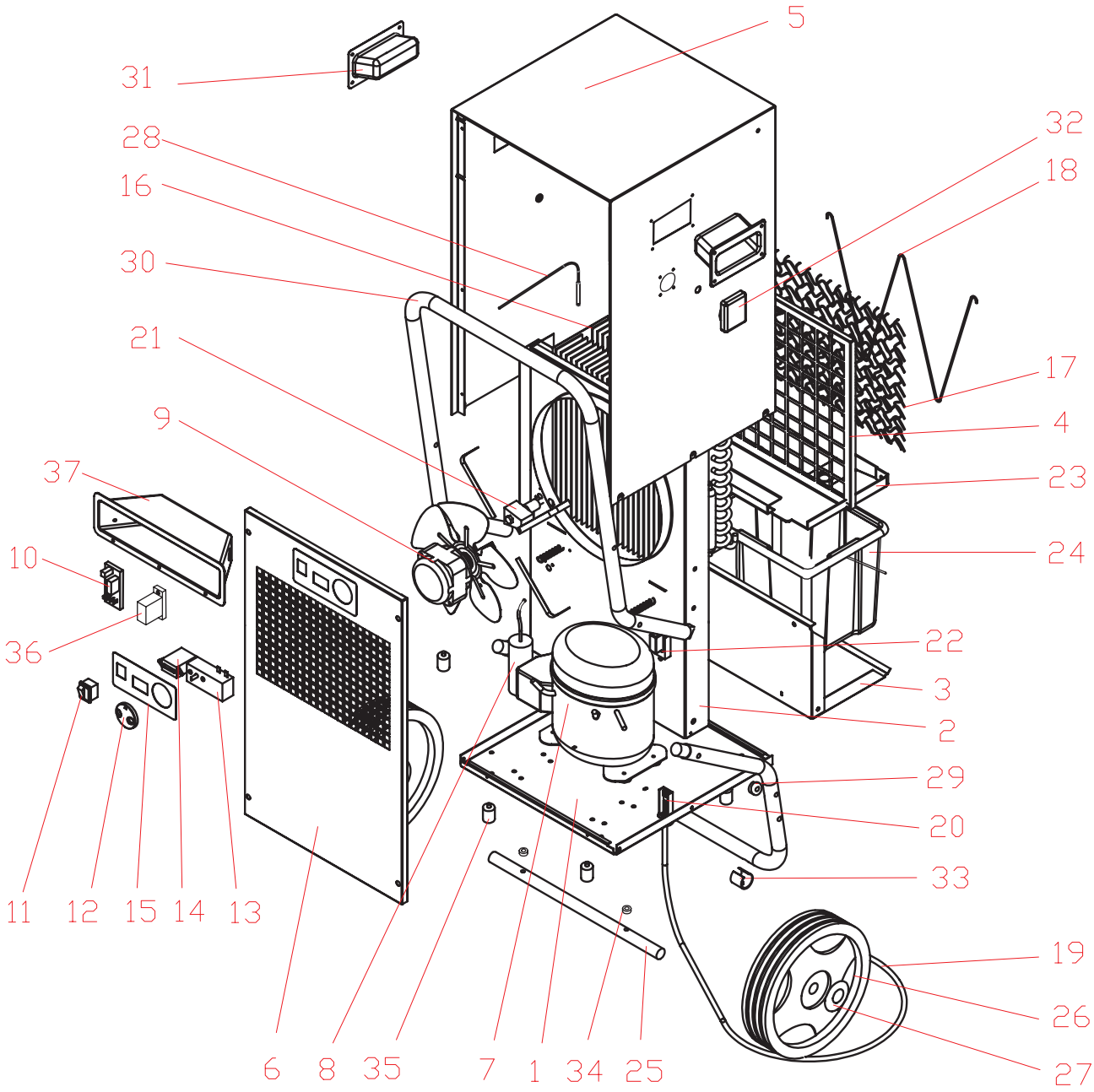

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Abb.	Deutsch	Englisch	Französisch	Art.-Nr.
1	Bodenplatte	Base plate	Plaque de fond	**048463**
2	Trennwand	Partition wall	Cloison de séparation	**300419**
3	Wassertankauflage	Water tank bearing	Support réservoir d'eau	**300420**
4	Ausblasgitter	Outlet grille	Grille de sortie	**300421**
5	Oberteil	Housing	Habillage	**300422**
6	Ansauggitter	Intake grille	Grille d'aspiration	**300423**
7	Kompressor	Compressor	Compresseur	**300552**
8	Anlaufkondensator	Starting capacitor	Capaciteur de démarrage	**300553**
9	Lüftermotor komplett	Fan motor complete	Moteur de ventilateur complet	**300354**
10	Leiterplatte	PC board	Platine électrique	**047423**
11	Hauptschalter	Main switch	Interrupteur principal	**051243**
12	Knopf Hygrostat	Humidistat knob	Bouton hygrostat	**051244**
13	Hygrostat	Humidistat	Hygrostat	**048479**
14	Betriebsstundenzähler	Working hours meter	Compteur heures de marche	**048472**
15	Aufkleber Bedienfeld	Control panel sticker	Autocollant display	**050010-01**
16	Verdampfer	Evaporator	Évaporateur	**048476**
17	Luftfilter	Air filter	Filtre à air	**051246**
18	Filterhalter	Filter holder	Support fîltre	**051247**
19	Netzkabel	Power cord	Câble d'alimentation	**050014**
20	Anschlussklemmen	Terminals	Bornes de connexion	**050015**
21	Magnetventil	Solenoid valve	Electrovanne	**300425**
21	Magnetventilspule	Solenoid valve coil	Electrovanne sans bobine	**300554**
22	Mikroschalter	Microswitch	Micro interrupteur	**300555**
23	Auffangschale	Drip tray	Bac collecteur	**048462**
24	Wassertank	Water tank	Réservoir d'eau	**051248**
25	Radachse	Wheel axle	Axe de roue	**051249**
26	Rad 250 mm	Wheel 250 mm	Roue 250 mm	**046157**
27	Verschlussunterlegscheibe	Lock washer	Rondelle de fermeture	**046159**
28	Verdampferfühler	Evaporator sensor	Sonde évaporateur	**047424**
29	Distanzstück	Spacer	Rondelle d'écartement	**300427**
30	Griff (Oberteil)	Handle (upper part)	Poignée (partie supérieure)	**300556**
30	Griff (Unterteil)	Handle (lower part)	Poignée (partie inférieure)	**300557**
31	Griffschale	Side handle	Poignée latérale	**051251**
32	Steckdose	Schuko socket	Prise femelle	**051252**
33	Plastikklammer	Plastic clip	Clip plastique	**300429**
34	Distanzstück Achse	Wheel axle spacer	Pièce d'écartement de l' axe de roue	**300438**
35	Distanzstück Radachse	Wheel axle spacer	Pièce d'écartement de l' axe de roue	**059418**
36	Relais	Relay	Relais	**056941**
	Relaishalterung (ohne Abbildung)	Relay holder (without picture)	Adaptateur de relais (sans photo)	**300430**
37	Elektroabdeckung	Cover for electrics	Boîtier de protection pour électrique	**300558**

Abb.	Deutsch	Englisch	Französisch	Art.-Nr.
1	Bodenplatte	Base plate	Plaque de fond	**300431**
2	Trennwand	Partition wall	Cloison de séparation	**300432**
3	Wassertankauflage	Water tank bearing	Support réservoir d'eau	**300420**
4	Ausblasgitter	Outlet grille	Grille de sortie	**300433**
5	Oberteil	Housing	Habillage	**051236**
6	Ansauggitter	Intake grille	Grille d'aspiration	**051237-01**
7	Kompressor	Compressor	Compresseur	**300559**
8	Anlaufkondensator	Starting capacitor	Capaciteur de démarrage	**300560**
9	Lüftermotor komplett	Fan motor complete	Moteur de ventilateur complet	**300357**
10	Leiterplatte	PC board	Platine électrique	**047423**
11	Hauptschalter	Main switch	Interrupteur principal	**051243**
12	Knopf Hygrostat	Humidistat knob	Bouton hygrostat	**051244**
13	Hygrostat	Humidistat	Hygrostat	**048479**
14	Betriebsstundenzähler	Working hours meter	Compteur heures de marche	**048472**
15	Aufkleber Bedienfeld	Control panel sticker	Autocollant display	**050010-01**
16	Verdampfer	Evaporator	Évaporateur	**050011**
17	Luftfilter	Air filter	Filtre à air	**300434**
18	Filterhalter	Filter holder	Support fîltre	**300435**
19	Netzkabel	Power cord	Câble d'alimentation	**050014**
20	Anschlussklemmen	Terminals	Bornes de connexion	**050015**
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23	Auffangschale	Drip tray	Bac collecteur	**050016**
24	Wassertank	Water tank	Réservoir d'eau	**051248**
25	Radachse	Wheel axle	Axe de roue	**050018**
26	Rad 250 mm	Wheel 250 mm	Roue 250 mm	**046157**
27	Verschlussunterlegscheibe	Lock washer	Rondelle de fermeture	**046159**
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30	Griff (Oberteil)	Handle (upper part)	Poignée (partie supérieure)	**300561**
30	Griff (Unterteil)	Handle (lower part)	Poignée (partie inférieure)	**300562**
31	Griffschale	Side handle	Poignée latérale	**051251**
32	Steckdose	Schuko socket	Prise femelle	**051252**
33	Plastikklammer	Plastic clip	Clip plastique	**300429**
34	Distanzstück Achse	Wheel axle spacer	Pièce d'écartement de l' axe de roue	**300438**
35	Distanzstück Radachse	Wheel axle spacer	Pièce d'écartement de l' axe de roue	**059418**
36	Relais	Relay	Relais	**056941**
	Relaishalterung (ohne Abbildung)	Relay holder (without picture)	Adaptateur de relais (sans photo)	**300430**
37	Elektroabdeckung	Cover for electrics	Boîtier de protection pour électrique	**300558**

EG - Konformitätserklärung
EC - Declaration of conformity

Der Hersteller The manufacturer Le fabricant	**Kroll Energy GmbH** **Pfarrgartenstraße 46** **71737 Kirchberg** **Deutschland**
Dokumentationsbevollmächtigter Authorized person for documentation Personne authorisée pour la documentation	
erklärt hiermit, dass folgende Produkte herewith declares that the following products déclare que les produits suivants	
Produktbezeichnung Désignation du produit Description	Luftentfeuchter Dehumidifier Déshumdificateur
Typenbezeichnung Type Type	**T20, T20Dual, TK30, TE40, T40Dual, TK60, TE80, TE100, T100Dual, TE120, T120Dual**
allen einschlägigen Bestimmungen der folgenden Richtlinien entspricht correspond to all relevant regulations of the following guidelines Correspondent à tous les spécifications des directives suivantes	**2006/42/EG** Maschinen Machines Machines
	2014/35/EU Elektrische Betriebsmittel zur Verwendung innerhalb bestimmter Spannungsgrenzen Electrical devices for use within certain voltage limits Matériel électrique pour utilisation dans certaines limites de voltage
	2014/30/EU Elektromagnetische Verträglichkeit Electromagnetic compatibility Compatibilité électromagnetique
	2011/65/EU zur Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten on the restriction of the use of certain hazardous substances in electrical and electronic equipment Restreindre l'utilisation de certaines substances dangereuses dans les équipements électriques et électroniques
	2012/19/EU Elektro- und Elektronik-Altgeräte on waste electrical and electronic equipment (WEEE) sur les déchets d'équipements électriques et électroniques (DEEE)
Folgende harmonisierte Normen wurden angewandt The following harmonized norms have been applied Les normes harmonisées suivantes ont été appliquées	**EN 60335-2-40:2003** **EN 60335-1:2012** **EN 61000-3-2:2014** **EN 61000-3-3:2013** **EN 55014-1:2017** **EN 55014-2:2015**

Kirchberg, 16. März 2020

Dr. Alexander Ramm

Geschäftsleitung

Bei nicht bestimmungsgemäßer Verwendung, Aufstellung, Wartung, wie in der Betriebsanleitung vorgegeben oder eigenmächtigen Änderungen an der werkseitig gelieferten Geräteausführung erlischt jeglicher Gewährleistungsanspruch.
Im Übrigen gelten unsere „Verkaufs- und Lieferbedingungen“.
Technische Änderungen im Sinne der Produktverbesserung vorbehalten.

Any use, installation, maintenance that is not effected according to the rules as asserted in the technical manual, or unauthorized modifications on the original version as delivered from manufacturer leads to expiration of any right to warranty.
Furtheron our „Conditions of Sales and Delivery“ are valid.
Technical modification for product improvement are subject to change without notice.

Toute utilisation, installation et maintenance qui ne soit pas effectué onformément aux directives fixés dans le manuel technique, ainsi que toute modification à l’appareil livré du fabricant dans sa version originale, entraîne l’expiration du droit de garantie.
En plus, nos „Conditions de vente et de livraison“ sont en vigueur.
Sous réserve de modification technique dans le sens d’amélioration du produit.

Любое использование, установка, обслуживание, выполненные не в соответствии с правилами, указанными в Техническом руководстве, либо несанкционированная модификация оригинальной версии, поставленной изготовителем, приводит к тому, что любые гарантии теряют силу.
Кроме того, действуют наши „Условия продаж и поставки“.
В изделие могут без уведомления вноситься технические модификации, направленные на усовершенствование изделия.

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