

Dantherm[®]

Dri - Tec
600 / 1800

CE

Instruction Manual

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1. WORKING PRINCIPLE

A dehumidifier dries the air by means of a cooling plant. The room air is drawn in at the back of the unit through a filter and over a cooling coil where moisture in the air is condensed into water drops on the evaporator coil. The condensate then runs into a tray and finally is piped into a water container. The dry, cold air is led over the condenser coil and is blown out into the room again at a temperature 2-5°C higher than the room temperature. The heat comes from the energy used to run the fan and the compressor together with the latent heat released when the water vapour is condensed.

By continued circulation of the room air through the dehumidifier, the relative humidity of the room will gradually be lowered.

2. TRANSPORT

Dri-Tec 600

The dehumidifier can be carried with the handle on top of the unit or rolled on the four wheels.

Dri-Tec 1800

The dehumidifier is tilted slightly backwards and is rolled to its appropriate place. Alternatively the unit can be lifted by a crane using the upper pipe strap.

Important!

The unit should always be transported in vertical position. The cooling plant may be damaged if it is transported lying down!

If the unit has been transported over a long distance it should stand still for at least 30 minutes before it is put into service.

3. INSTALLATION AND CONNECTIONS

When possible the dehumidifier should be placed in the middle of the room to ensure a good air circulation in the whole room.

If this is not possible the dehumidifier should be placed in such a way that the air can be sucked in freely at the back of the unit and blown out at the front. The minimum distance from a wall should be about 400 mm.

The dehumidifier must be installed on a level surface to ensure free discharge of the condensed water.

Important!

Moisture can easily and freely spread through the air. It is therefore important to "seal" the room as tight as possible, i.e. doors and windows must be kept closed and movement in and out of the room must be minimized. Otherwise the efficiency of the unit will be considerably reduced.

3.1. ELECTRICAL CONNECTION

The unit can be connected either to 1x110V-50 Hz (**YELLOW PLUG**) or 1x240V-50 Hz (**BLUE PLUG**) by using the supplied connecting cables. These cables are supplied separately with the Dri-Tec 600.

In the Dri-Tec 1800 they are stored in the compartment underneath the air inlet filter.

3.2. CONNECTION OF HYGROSTAT

The air dehumidifier can operate continuously or be controlled by a hygostat. The hygostat should be installed as far away from the unit as possible to ensure the dehumidifier does not directly influence the hygostat with its dry air.

It is only possible to run the Dri-Tec 1800 with a hygostat, not the Dri-Tec 600.

The hygostat socket of the Dri-Tec 1800 is located at the right hand side of the unit. The hygostat is connected to the hygostat socket which is 12 V AC.

3.3. CONDENSATE OUTFLOW

The waste tube which is locked in the storage compartment (Dri-Tec 1800) or supplied loose (Dri-Tec 600), is fixed to the ½" copper pipe at the rear of the unit. The waste tube discharges into a water container, which should be as tight as possible to avoid evaporation.

If a longer waste tube is connected to the unit and led directly to a floor drain, then make sure that the waste tube has a fall towards the drain.

4. START UP

4.1. 110 V - 50 HZ OPERATION Dri-Tec 600

Take the cable with the **YELLOW PLUG** which is supplied separat with the unit and connect the small rectangular plug of the cable into the socket (1) on the right hand side of the unit.

4.1. 110 V - 50 HZ OPERATION Dri-Tec 1800

Take out the cable with the **YELLOW PLUG** from the storage compartment which is placed under the air filter. The small rectangular plug of the cable is plugged into the socket of the dehumidifier, which is also located in the storage compartment.

Once this has been done, the plug is secured by means of the mounted lock fittings. The unit can then be connected to 1 x 110 V - 50 Hz.

4.2. 240 V - 50 HZ OPERATION

Take the cable with the **BLUE PLUG**. Connect it as described above for Dri-Tec 600 and 1800.

The unit can then be connected to 1 x 240 V - 50 Hz.

4.3. OPERATION WITHOUT HYGROSTAT

The main switch (2) is set to position I, and fan and compressor start. The green lamp of the main switch is on.

The unit is stopped by putting the switch back to position 0.

4.4. OPERATION WITH HYGROSTAT (Only Dri-Tec 1800)

The hygostat is connected to the socket (4) and the unit is started as described above. If the relative humidity of the room is higher than the setting of the hygostat, the unit will start. When the set humidity is reached, the unit stops automatically. The green lamp of the main switch (2) will still be on. If the relative humidity increases, the unit starts to dehumidify again.

Important!

Each time the unit has been stopped, either by the switch (2) or the hygostat, a time delay built into the electronic control will make the unit wait 1 minute, before it starts again. This is a security function which protects the compressor against overloading in case of frequent cutting in and out!

4.5. EXPLANATION OF SYMBOLS ON THE ELECTRONIC CONTROL

This electronic is only mounted in the Dri-Tec 1800!

A. Lights up in red if the sensor in the cooling system detects too high a temperature. The whole unit will then be switched off. This function safeguards the compressor against breakdown. Starts automatically after 45 minutes.

If this light is on the air flow through the unit should be checked, including the fan. Clean filter, condenser and evaporator as necessary. (See section 7).

B. Lights up in yellow if a temperature of more than 30°C is detected on the external air sensor - the dehumidifier stops. When the temperature has fallen to a temperature lower than 30°C, the unit starts automatically again.

C. Lights up in yellow, if the external air sensor detects a temperature of less than 3°C. The unit stops. When the temperature has risen to more than 3°C the unit starts again.

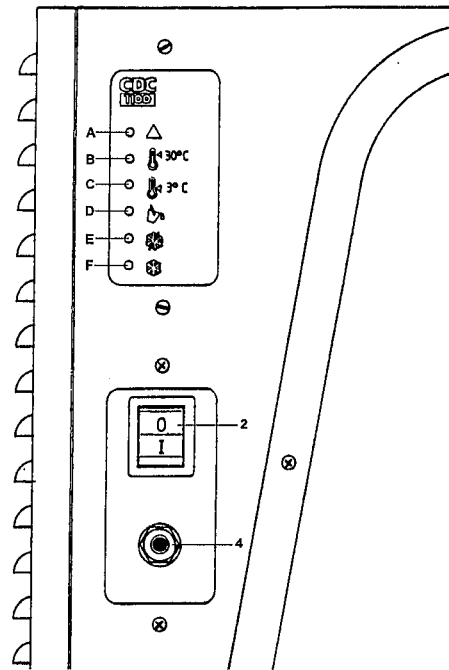
D. This light-emitting diode has no function in connection with a model Dri-Tec 1800.

E. Lights up in green during automatic de-frosting of the evaporator.

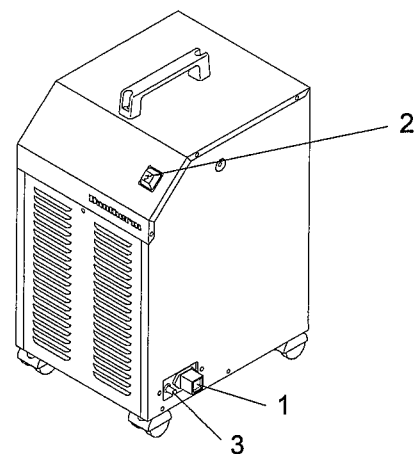
F. Green lamp is on when the first ice forms on the evaporator. The formation of ice continues for 44 minutes after which time the defrosting starts automatically.

4.6. ETA PROTECTION RELAY

In Dri-Tec 600/1800 a so-called ETA-relay (3) is built in to afford protection against wrong electricity supply. Should the unit be connected to a wrong tension, the ETA relay will switch the whole unit off immediately. The unit cannot be re-started before the ETA button has been pushed in manually. On Dri-Tec 600 the ETA relay is located on the bottom right hand side next to the electricity supply. In Dri-Tec 1800 the ETA relay is located behind the air outlet grille on the left hand side. In order to reset the relay the air outlet grille has to be removed.



Dri - Tec 1800



Dri - Tec 600

5. MAINTENANCE

The dehumidifier has been designed to ensure reliable operation and a minimum of inspection. All moving parts are lubricated for life.

It is, however, recommended to check the unit and if necessary clean it at least once a year. During this inspection special attention should be paid to the evaporator and the condenser. The fins can be vacuum-cleaned or brushed with care.

The filter at the back of the unit also has to be cleaned at regular intervals, depending on how dirty it becomes. The filter can be cleaned by washing, vacuum-cleaning or blowing.

6. TECHNICAL SPECIFICATIONS

DRI-TEC 600

Working range - humidity	40 - 100	% R.F.
Working range - temperature	10 - 30	°C
Power supply	110/240-50	V/Hz
Max. current consumption	3.2/1.68	A
Max. power consumption	320	W
Main fuse	16/10	A
Air volume	200	m ³ /h
Refrigerant	R 22	
Refrigerant - quantity	260	g
Weight	28	kg

DRI-TEC 1800

Working range - humidity	40 - 100	% R.F.
Working range - temperature	3 - 30	°C
Power supply	110/240-50	V/Hz
Max. current consumption	9.0/4.2	A
Max. power consumption	940	W
Main fuse	16/10	A
Air volume	700	m ³ /h
Refrigerant	R 22	
Refrigerant - quantity	580	g
Weight	50	kg

7. FAULT-FINDING DRI - TEC 600

INDICATION	REASON	REMEDY
Unit is not working. Green lamp (2) is off	Main fuse for the building has tripped.	Replace fuse.
	ETA relay of the unit has switched off the electric circuit.	Remove the front cover grille and push in the reset button at the lower left hand side of the unit.
	Power supply cable defective.	If the ETA relay cuts out again, check if the unit is connected to the correct voltage.
Dehumidifier does not run. Green lamp (2) is on.	Timer for deicing control defective.	Repair power supply cable or replace it.
	Internal compressor protection has cut off the compressor because:	Replace timer
	- The air volume is too low.	Clean filter, evaporator and condenser of the dehumidifier. The dehumidifier must not be placed too close to a wall.
	- Fan has failed.	Replace fan
	- Room air temperature is higher than 30°C	Stop the unit and wait until the temperature has fallen to a level under 30°C.
The unit dehumidifies, but not sufficiently.	Unit is dirty	Filter, evaporator and condenser must be cleaned.
	Relative humidity lower than 40% R.H.	Wait until the relative humidity has risen.
	Loss of refrigerant from the cooling plant (the evaporator is not getting cold or only getting partly cold)	Repair the leakage of the cooling plant and charge with refrigerant

7. FAULT-FINDING DRI - TEC 1800

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Unit is not working. Green lamp (2) is off.	Main fuse for the building has tripped.	Replace fuse.
	ETA relay of the unit has switched off the electric circuit.	Remove the front cover grille and push in the reset button at the lower left hand side of the unit.
	Power supply cable defective	If the ETA relay cuts out again, check if the unit is connected to the correct voltage.
Dehumidifier does not run. Green lamp (2) is on.	The time lag has not yet allowed any function.	Repair power supply cable or replace it.
	Hygrostat defect.	Wait one minute, then the dehumidifier starts automatically, if no other lamp of the panel is on.
Red lamp "Overheating" is on.	The air volume is too low.	Pull out the Jack-plug from the unit.
	Fan has failed.	Clean filter, evaporator and condenser of the dehumidifier. The dehumidifier must not be placed too close to a wall.
Yellow lamp "Temp. too high" is on.	Room air temperature is higher than 30°C	Replace fan
Yellow lamp "Temp. too low" is on.	Room air temperature is lower than 3°C	Wait until the temperature has fallen to a level under 30°C. The unit starts again automatically.
The unit dehumidifies, but not sufficiently.	Unit is dirty	Wait until the temperature has risen to more than 3°C. The unit starts again automatically.
	Relative humidity lower than 40% R.H.	Filter, evaporator and condenser must be cleaned.
	Loss of refrigerant from the cooling plant (the evaporator is not getting cold or only getting partly cold)	Wait until the relative humidity has risen. Repair the leakage of the cooling plant and charge with refrigerant

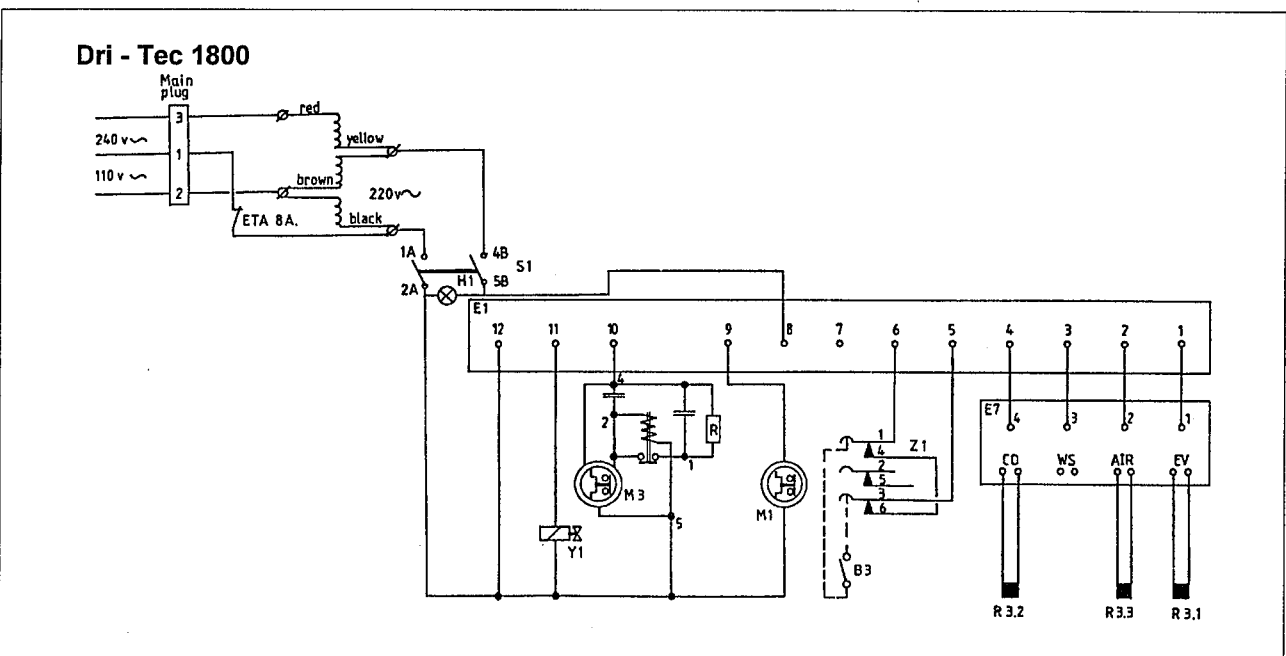
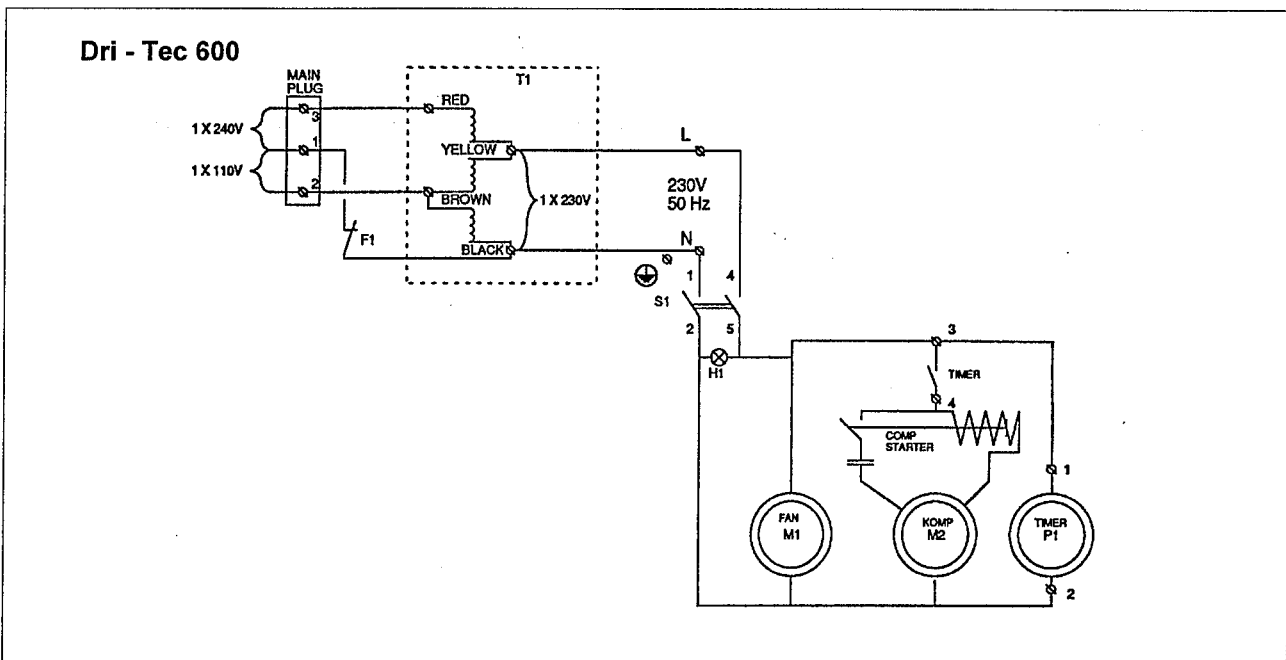
8. WIRING DIAGRAM

Dri - Tec 600

- H1: Green control lamp
- F1: ETA overload relay
- M1: Fan
- M2: Compressor
- P1: Timer
- T1: Transformer

Dri - Tec 1800

- E1: Electronic control
- E7: Sensor terminal
- H1: Green control lamp
- B3: Hygrostat
- F1: ETA overload relay
- M1: Fan
- M3: Compressor
- R3.1: Sensor - evaporator
- R3.2: Sensor - circuit
- R3.3: Sensor - air
- T1: Transformer
- Y1: Solenoid valve
- Z1: Hygrostat connection



9. COOLING CIRCUIT

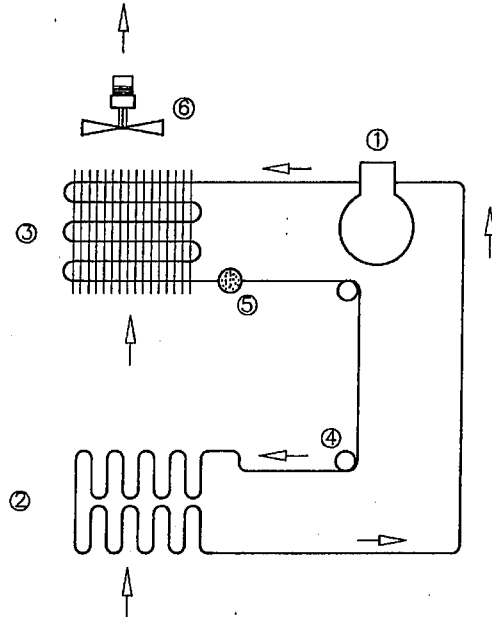
Dri - Tec 600

1. Compressor
2. Evaporator
3. Condenser
4. Capillary tubes
5. Liquid line drier
6. Fan

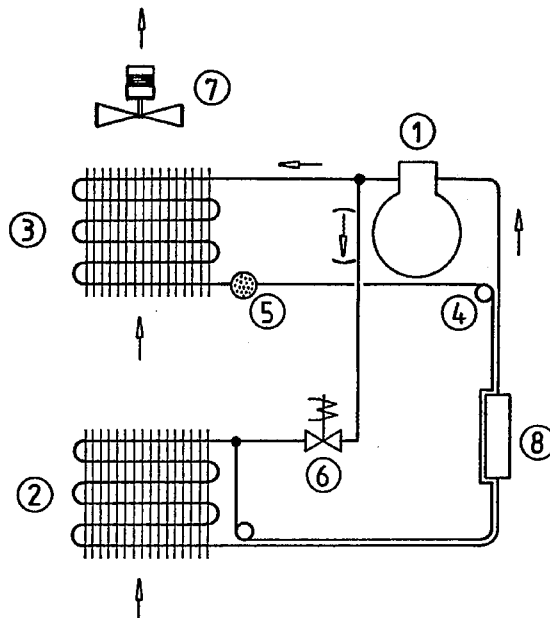
Dri - Tec 1800

1. Compressor
2. Evaporator
3. Condenser
4. Capillary tubes
5. Liquid line drier
6. Solenoid valve
7. Fan
8. Suction accumulator

Dri - Tec 600

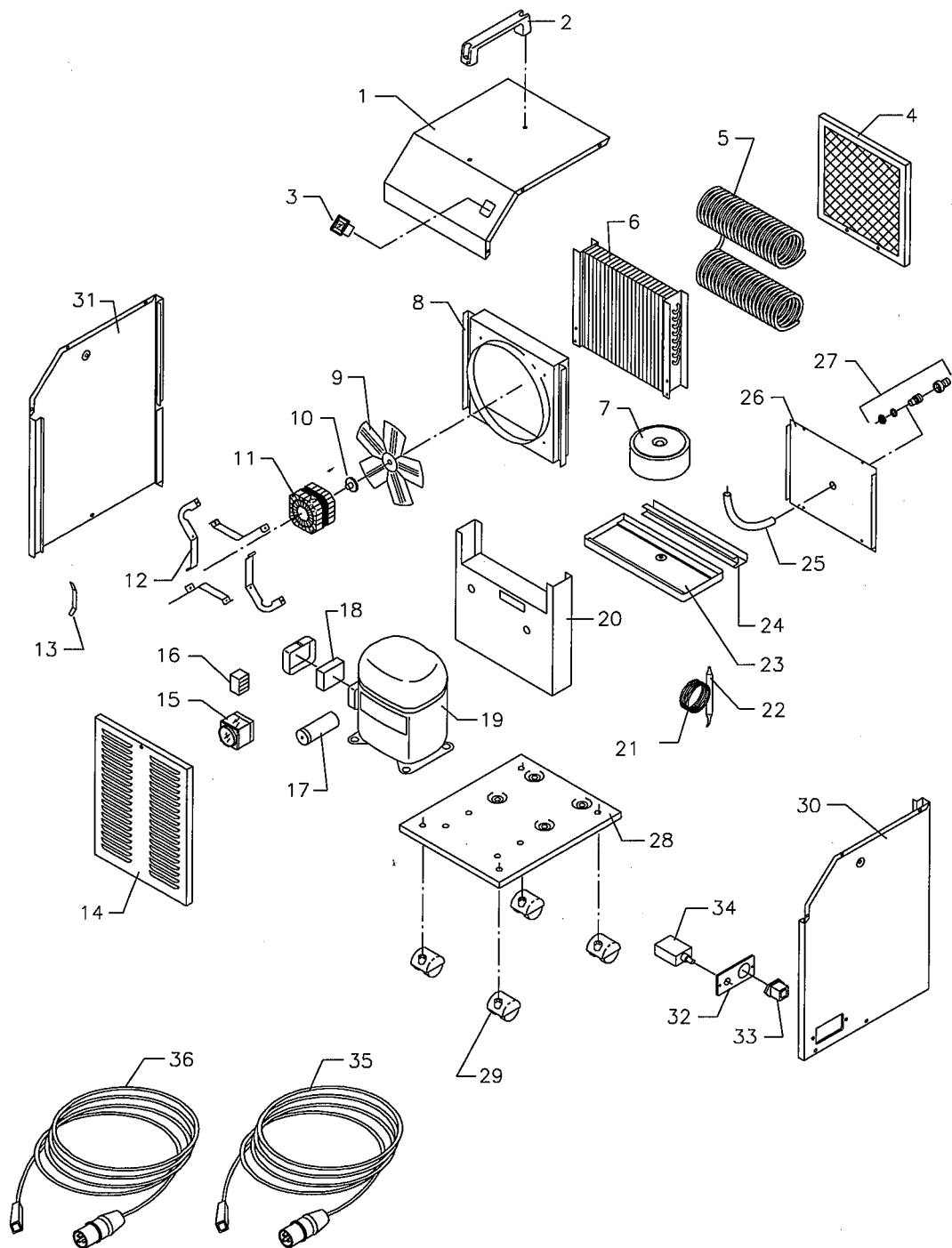


Dri - Tec 1800



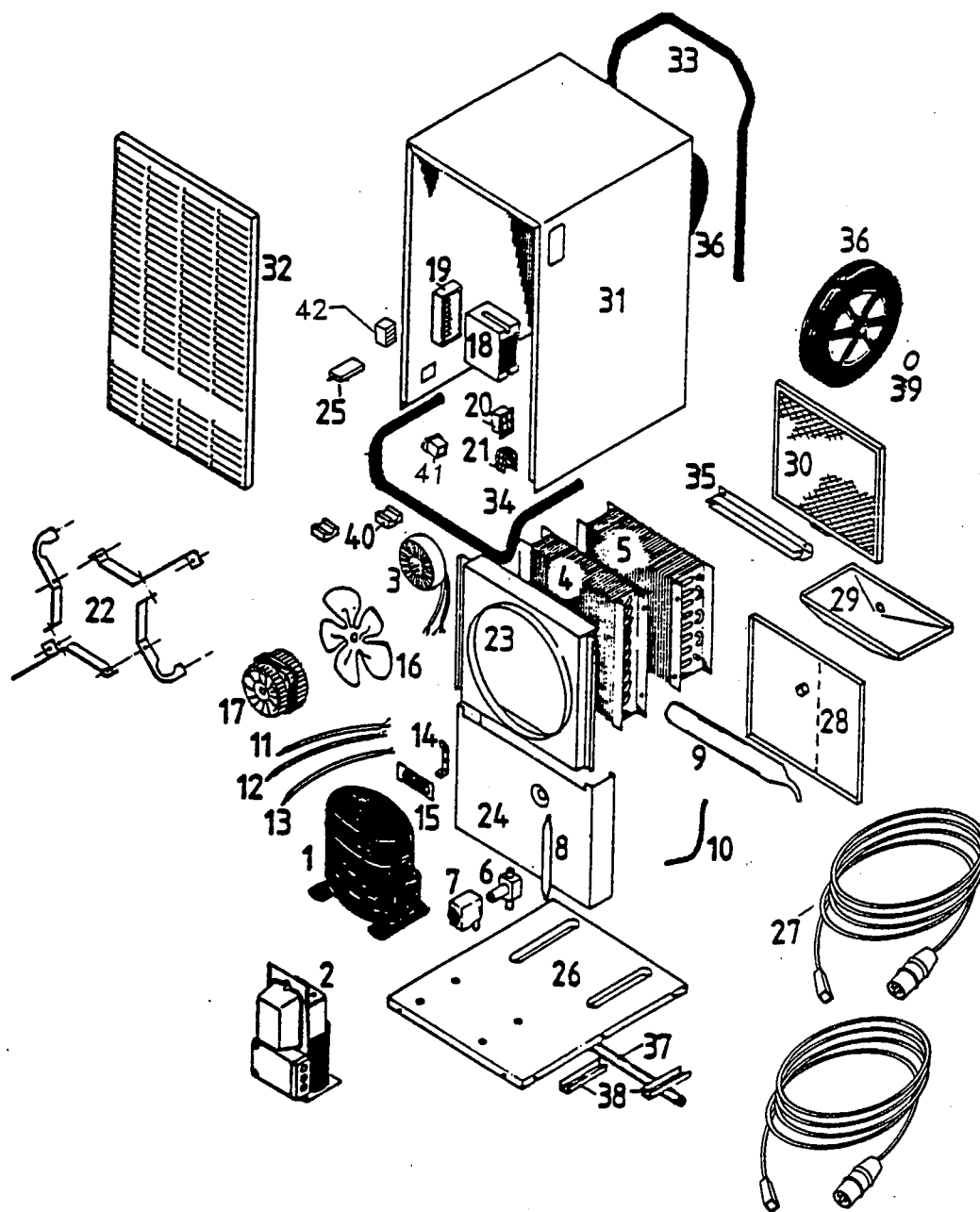
10. SPARE PARTS LIST Dri - Tec 600

Part No.	Dantherm No.	Description
1	8232	Cover plate, top
2	54045	Handle
3	51508	Switch ON/OFF
4	20412	Filter frame with filter
5	17123	Tube evaporator
6	60098	Condenser
7	51545	Transformer 110/240 V
8	6956	Fan housing
9	53251	Fan blade
10	79140	Driving plate
11	53248	Fan motor 5 W
12	2330	Fan bracket
13	20551	Earth connection
14	8233	Air discharge grille
15	51676	Timer clock
16	52092	Terminals
17	60313	Starting capacitor for compressor
18	60325	Starting relay for compressor
19	60317	Compressor
20	6952	Partition wall
21	43562	Capillary tube
22	60741	Liquid line drier
23	20289	Drip tray with drain
24	17518	Profiled bracket for air filter
25	42810	Hose ½"
26	6928	Rear plate
27	38128	Hose union ½" complete
28	6950	Bottom plate
29	54132	Wheel
30	8227	Cover plate, right hand side
31	8626	Cover plate, left hand side
32	6926	Mounting plate for plug
33	38129	Plug for power connection
34	51163	ETA relay
35	55016	Supply cable with plug 110 V
36	55017	Supply cable with plug 240 V



10. SPARE PARTS LIST Dri - Tec 1800

Part No.	Dantherm No.	Description
1	60207	Compressor
2	79290	Starting equipment
3	51545	Transformer 110/240 V
4	60101	Condenser
5	17125	Tube evaporator
6	60547	Solenoid valve
7	60544	Coil for solenoid valve
8	60741	Liquid line drier
9	4293	Suction accumulator
10	4292	Capillary tubes
11	55143	Air sensor
13	55141	Condenser sensor
14	20551	Earth connection
15	51777	Sensor terminal
16	8283	Fan blade
17	53250	Fan motor
18	51758	Electronic control
19	-	Socket for electronic control
20	51501	Toggle switch
21	52449	Jack socket for hygrostat
22	2360	Fan bracket
23	8208	Fan housing
24	8217	Partition wall
25	51163	ETA relay
26	17528	Bottom plate
27	55016	Supply cable with plug for 110 V
27	55017	Supply cable with plug for 240 V
28	8277 + 8276	Cover panel
29	20275	Drip tray
30	43131	Filter
-	16996	Filter grille
31	8280	Jacket
32	8282	Front cover panel
33	16992	Carrying handle - upper
34	56559	Carrying handle - lower
35	17327	Profiled bracket for drip tray
36	54073	Wheels
37	8278	Wheel axle
38	8229	Bracket for wheel axle
39	47706	Wheel cap
40	54106	Plastic feet



EC – Declaration of Conformity

Dantherm®

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Jegstrupvej 4
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hereby declare that the machines,

**DEHUMIDIFIER TYPE Dri-Tec 600
DEHUMIDIFIER TYPE Dri-Tec 1800**

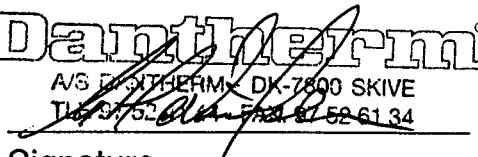
are in conformity with the following directives:

89/392/EEC: Directive on the safety of machines
73/23/EEC: Low Voltage Directive
89/336/EEC: EMC Directive

– and were manufactured in conformity with the following standards:

EN 60335-2-40: Standard for electric dehumidifiers
EN 50081-1-EMC: Generic Standard for Emission
EN 50082-1 EMC: Generic Standard for Immunity
EN 292: Machine Safety

SKIVE 22/12. 94
Place and date

Dantherm®
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Signature