Dantherm®

INSTRUCTION MANUAL
DEHUMIDIFIERS
CD 1100 / CD 1800

(with R22)

SUMMARY:

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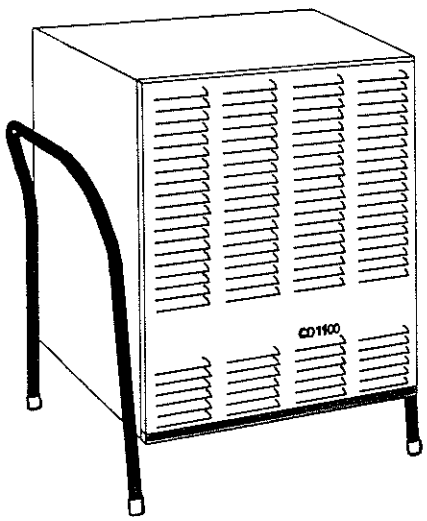
1. WORKING PRINCIPLE

Dehumidifiers type CD 1100/1800 dry the air by means of a cooling plant.

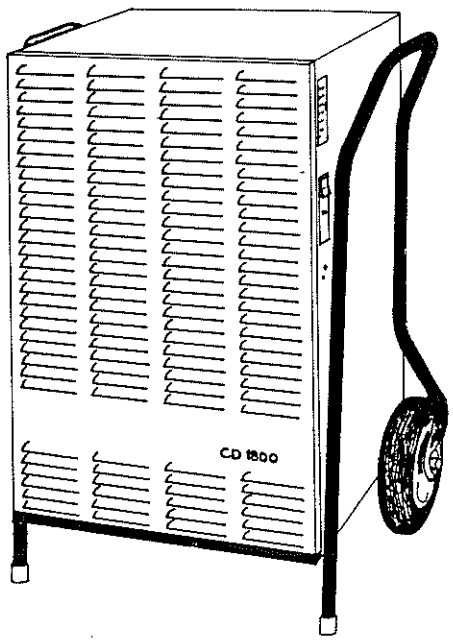
The room air is drawn in at the back of the unit through a filter and a a cooling element, where the aqueous vapours of the air are condensed into water drops on the fins of the cooling element. The condensate then runs into the condensate tray and finally into the water container. The dry, cold air is led through the condenser and is blown out into the room again at a temperature 2-5°C higher than the room temperature. The heat supplement comes from the effect used to run the fan and the compressor and the latent heat released when the water vapours are condensed.

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

CD 1100



CD 1800



2. INSTALLATION AND CONNECTION

When possible the dehumidifier should be placed in the middle of the room so that a good air circulation in the whole room is obtained.

If this is not possible, the dehumidifier should be placed in such a way that the air can be drawn in freely at the back of the unit and blown out at the front of it. Minimum distance to wall is 40 cm. This distance corresponds to the breadth of the water container.

> 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. If this is not the case, the efficiency of the unit will be considerably reduced.

The unit must be installed on a near-horizontal surface to ensure the free discharge of the condensed water.

ELECTRICAL CONNECTION

The dehumidifier must be connected to 1 x 220/240 V - 50 Hz by means of the cable which is fitted to the unit.

HYGROSTAT CONNECTION

The socket for the hygrostat is placed at the right hand side of the dehumidifier. The hygrostat plug is put into the hygrostat socket.

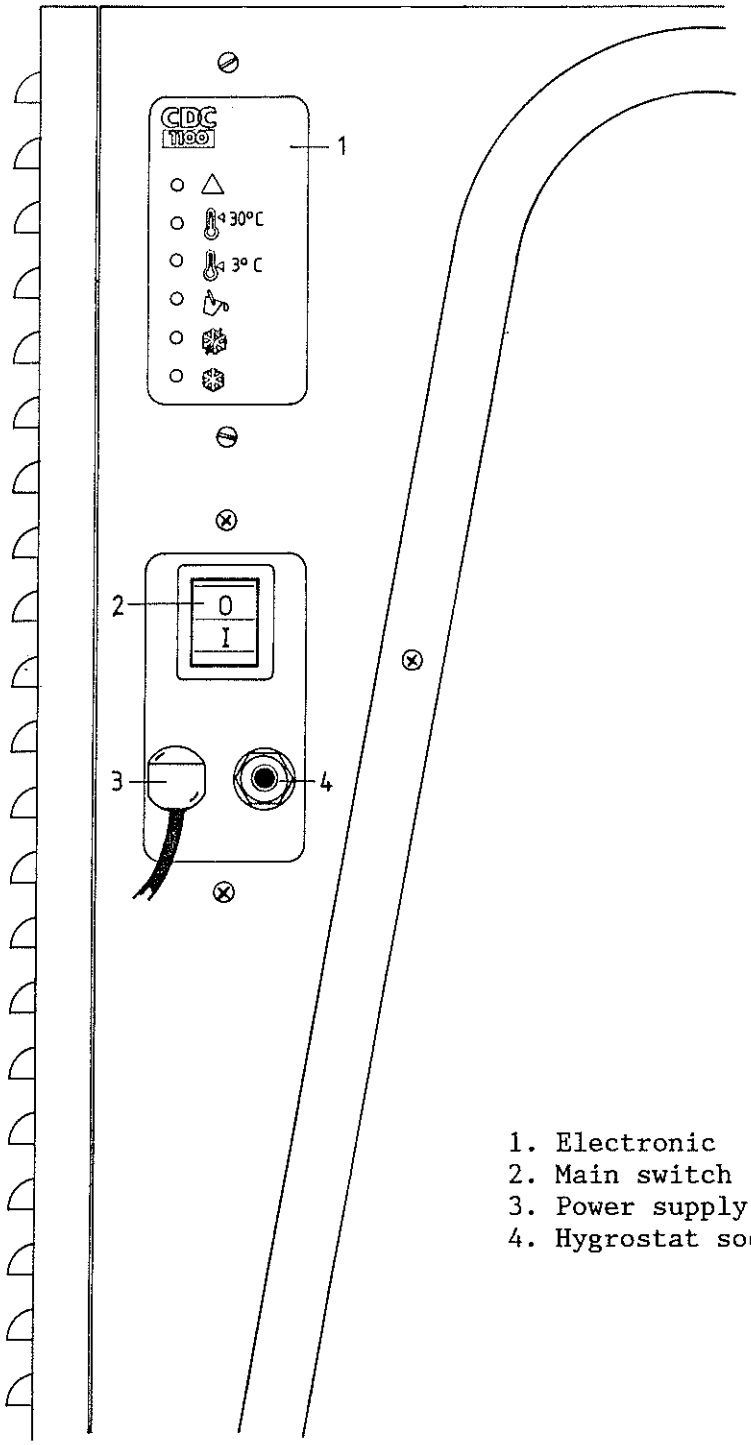
DRAIN

Normally the condensate water runs into the water container. When the container is full, the dehumidifier is stopped by means of a magnetic float.

> It is important to fit the water container correctly in the unit.

If a continued drying process is desirable, the water container can be removed and a permanent drain can be established by fitting a water hose to the condensate tray. The water hose should have a fall away from the unit.

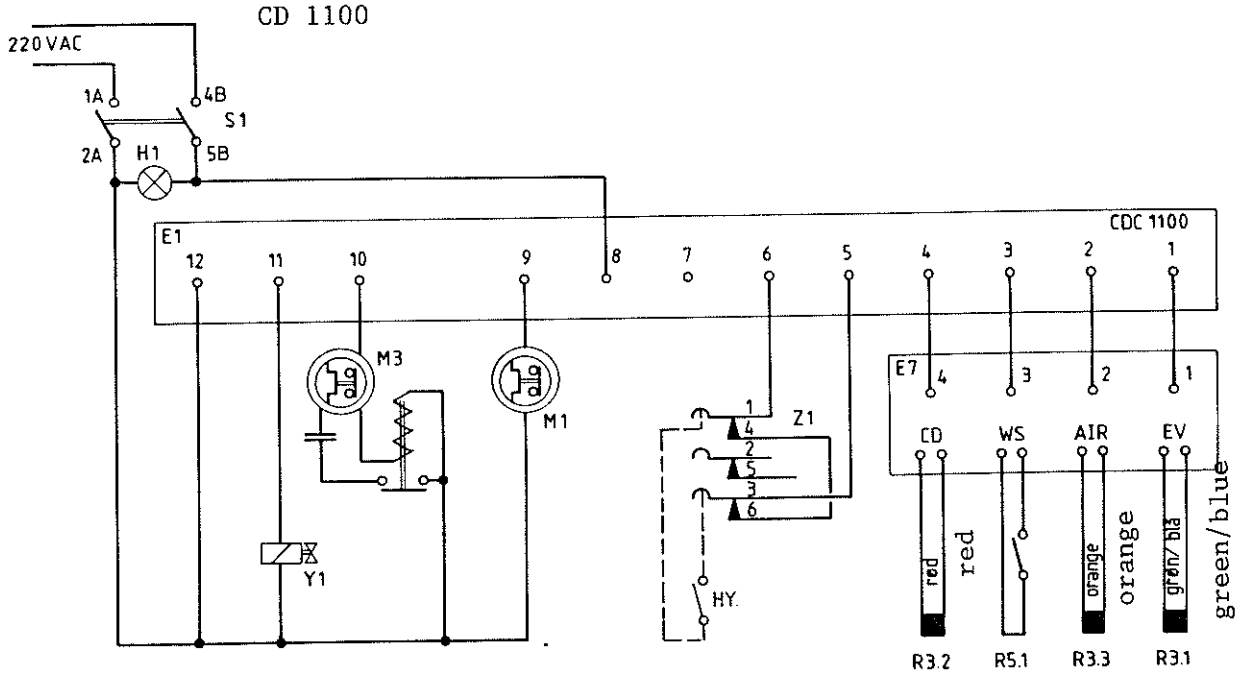
3. START UP



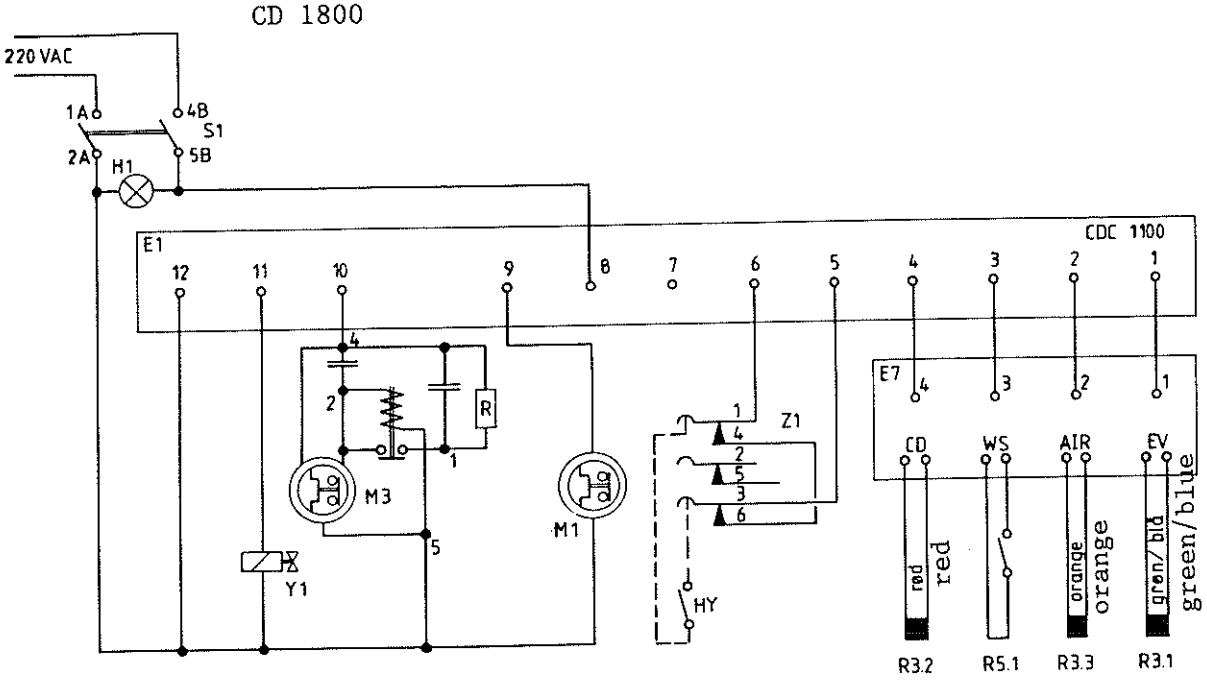
1. Electronic
2. Main switch
3. Power supply cable
4. Hygrostat socket

7. WIRING DIAGRAMS

CD 1100



CD 1800



E1:	Electronic control	R3.1:	Sensor - evaporator
E7:	Sensor terminal	R3.2:	Sensor - circuit
H1:	Green control lamp	R3.3:	Sensor - air
Hy:	Hygrostat	R5.1:	Sensor - water stop
M1:	Fan	Y1:	Solenoid valve
M3:	Compressor	Z1:	Hygrostat connection

OPERATION WITHOUT HYGROSTAT

The main switch (2) is set to position I and fan and compressor start. The lamp in the switch will light up in green.

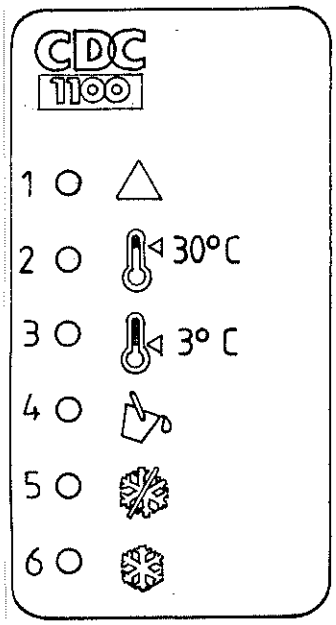
The unit is stopped by putting the switch back to position 0.

OPERATION WITH HYGROSTAT

The hygrostat 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 hygrostat, the unit will start. When the set humidity is reached, the unit stops automatically. The green lamp (2) will still be on. If the relative humidity increases, the unit starts to dehumidify again.

> Each time the unit has been stopped, either by the switch (2), the hygrostat or because of a full container, 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.

EXPLANATION OF SYMBOLS ON THE ELECTRONIC CONTROL



1. Lights up in red if the sensor in the cooling system senses a too high temperature. The whole unit will then be switched off. This function assures the compressor against break-down.

When this light has been on the air flow through the unit should be checked, including the fan and filter. Clean condenser and fan as necessary. (see section 4).

2. Lights up in yellow if a temperature of more than 30°C is sensed by the external sensor - the dehumidifier stops. When the room temperature has fallen to below 30°C, the unit starts automatically again.

3. Lights up in yellow if the external air sensor senses a temperature of less than 3°C. Dehumidification is no longer possible and the dehumidifier stops. When the temperature increases to more than 3°C, the unit starts again.

4. Lights up in red when the water container is full. The unit stops.

5. Lights up in green during automatic defrosting of the evaporator.

6. Lights up in green when the first ice forms on the evaporator. The formation of ice continues for 44 minutes after which time the defrosting takes place automatically.

EMPTYING OF THE WATER CONTAINER

The unit must be switched off before taking out the water container. When re-inserting the water container care must be taken not to place the container in a slanting position, as this might damage the water stop function.

4. MAINTENANCE

The dehumidifiers have 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.

> WARNING:
>
> Switch off power before opening the unit!

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 rinsing, vacuum-cleaning or blowing.

5. FAULT-FINDING

When the unit is connected to electricity, the green lamp (2) is on and the unit is ready for operation. If the lamp is not on there is a defect in the power supply, i.e. the main switch, the main fuse or the cable is defect.

> Wait 1 minute before investigating the defect. The electronic control may have blocked the unit for 1 minute for reasons of security.

If the green lamp (2) is on and the unit does not start, check the electronic control for any signals of disturbances in the function. See section 3.

If the electronic control does not indicate a fault, the hygrostat, if fitted, must be checked. Remove the hygrostat. If the unit starts now, the hygrostat is defective.

If the unit still does not start, a refrigeration engineer must check the electronic control, the sensor and the single components of the unit.

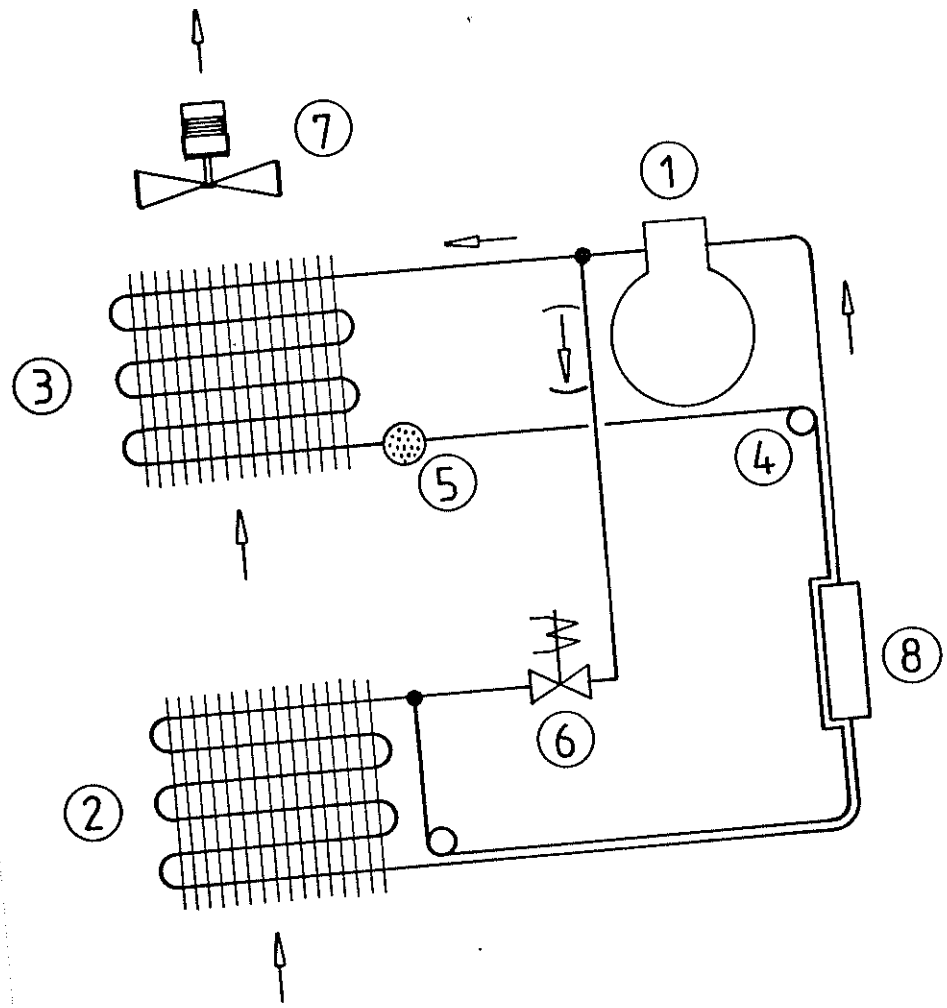
The same procedure should be followed if the unit runs but does not give water. This indicates a possible fault in the cooling circuit. Please consult a refrigeration engineer.

> If such defect occurs, switch off the unit immediately!

6. TECHNICAL SPECIFICATIONS

Type	CD 1100	CD 1800
Working area - humidity	40 - 100% R.H.	
Working area - temperature	3 - 30°C	
Power supply	1 x 220/240 V - 50 Hz	
Max. current consumption	2,9 A	4,4 A
Max. power consumption	520 W	930 W
Main fuse	10 A	10 A
Air volume	380 m^3/h	700 m^3/h
Refrigerant	R 22	R 22
Refrigerant - quantity	360 g	550 g
Weight	36 kg	45 kg

8. COOLING CIRCUIT



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