

RD 4S

Dehumidifier

Operating Instructions



RD 4S



RD 4S

Table of contents	Page
Damage during transport	3
Diagram	3
Overall view	4
Method of operation	5
Refrigeration system	5
Preparation	6
Setting into operation	6
Scope of application	8
Malfunction and remedy	9
Cleaning	10
Technical data	10
Connection diagram RD 4S	11
Spare parts	12
Guarantee	13

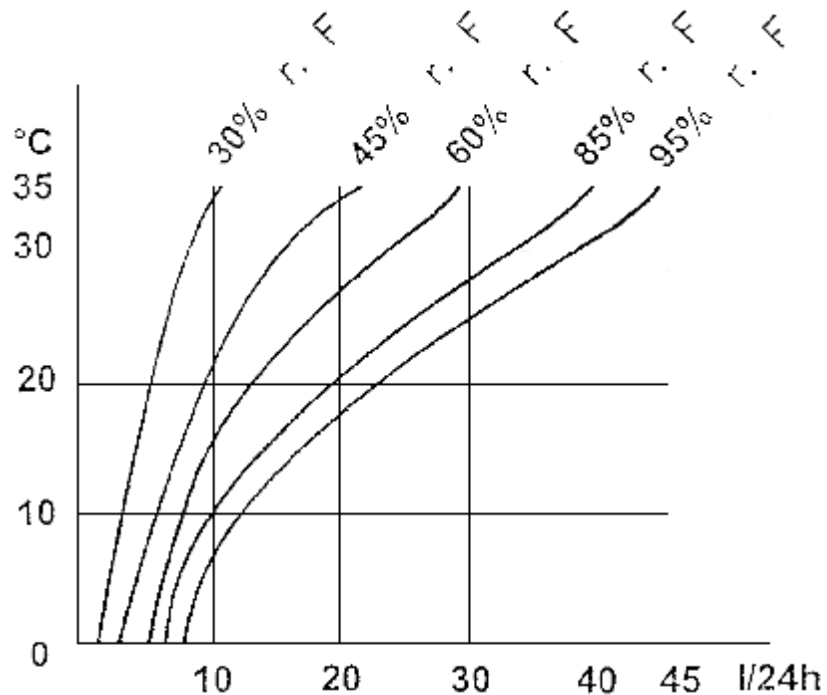
RD 4S

Warning!

Keep the appliance in a standing position when moving it about, otherwise the compressor may be damaged.

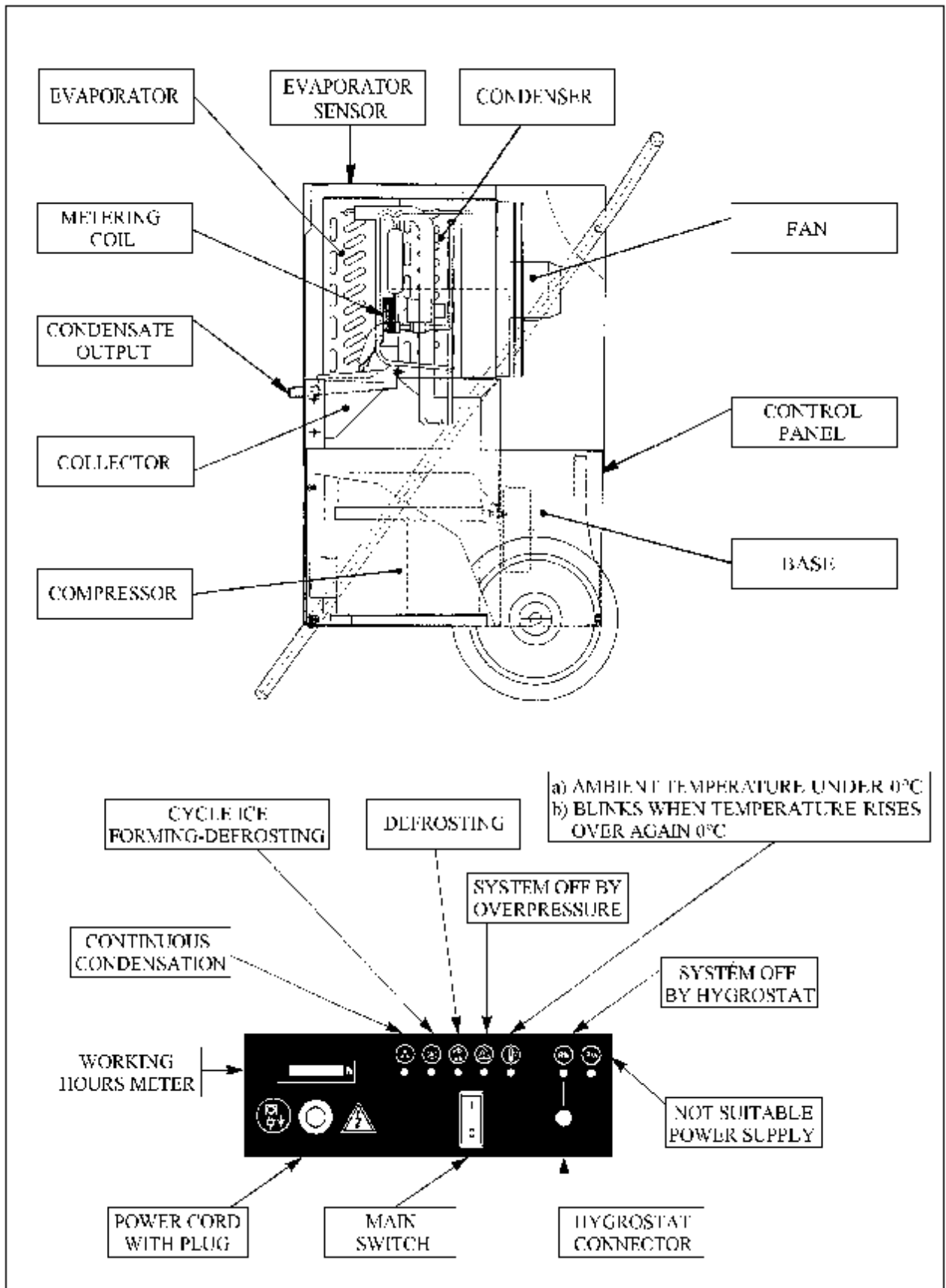
Damage during transport

Your dealer must be notified of possible transport damage within 48 hours before the appliance is set into operation. The appliance is only to be started up after competent repair.



RD 4S
Dehumidifying capacity
Diagram

RD 4S



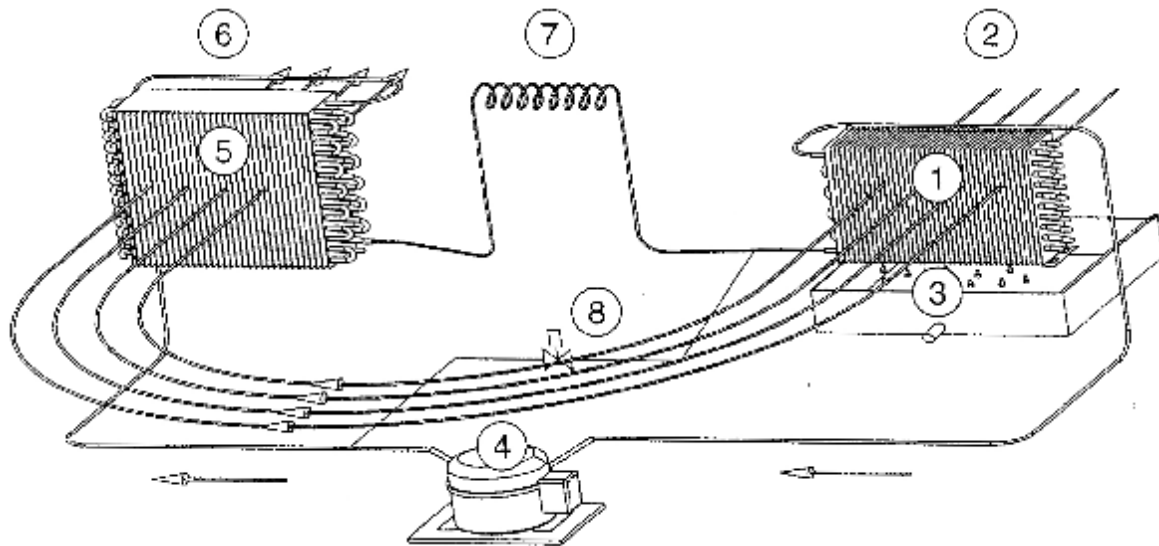
RD 4S

Method of operation Dehumidifier

The device operates automatically. Used mode has been shown by indicators. Moist air in the room is drawn into the appliance and flows through the evaporator, where it is cooled. Water vapour in the air condenses on the evaporator cooling surfaces and falls as water droplets into the drip pan. The cool, dry air is reheated as it flows through the condenser.

When used correctly the consumption of energy is about 30% of that used by drying through heating.

Diagram Refrigeration system



- Evaporator
- , Heat extraction from room air
- f* Drip pan
- " Compressor
- ... Condenser
- † Heat transfer to room air
- ‡ Refrigerant metering coil
- ^ Solenoid valve

RD 4S

Preparations

The intake end of the dehumidifier must be at least 20 cm from any wall. The appliance must be horizontal and not be placed near a heat source or air intake.

The operating range is between 0 °C and 35 °C room temperature and minimum air humidity 30 %.



Warning!

If the appliance is used in a swimming pool or similar, it must be fitted with a circuit breaker.



Setting into operation

The dehumidifier is a "dual voltage" device equipped with the transformer, so it can be connected to the voltage 110 V and also to 220-240 V / 50 Hz. The dehumidifier is ready for use, immediately after the unit has been plugged in. After the unit has been switched on, it is automatically ready for voltage 220-240 V. In case of voltage 110 V the electronic relay automatically switches over after 2 sec. and the device will start working. In case the unit is switched on (main switch) before being plugged, the device will start also with a delay of 2 sec.

The device operates automatically.

In case that voltage is out of tolerance (it means lower or higher than 99 - 121 VAC or 204 - 264 VAC) device shut itself OFF and LED 7 "PW" is flashing. When power meet back to tolerance LED 7 "PW" lights constantly for 30 seconds and then device turn itself ON.

Connect mains plug to a socket with 16/Amp. fuse and earthing contact. Adjust appliance to desired room humidity level.

Turn main switch to ON.

The appliance is now ready for use.

RD 4S

How to set the automatic humidity control

1. Your DEHUMID can be equipped with an adjustable humidistat (hygrostat),(in option).
When the hygrostat is not connected, the appliance works also, but without automatic control (See also the point 5.).
2. The humidistat knob turns clockwise. The size of the room, the relative humidity and the temperature will influence your setting. Start it first by selecting the midway position.
3. One set in operation, the device works until the set humidity is reached. Then the unit will stop and start by itself. It is maintaining the humidity you have selected.
4. If you want to remove more moisture, rotate knob clockwise.
5. In extreme conditions, rotate the knob clockwise to final position. At this setting, your dehumidifier will operate continuously regardless of the amount of moisture in the air.

Defrost Control

Your Dehumidifier is equipped with an automatic defrost control unit working by hot-gas that guards against ice forming on refrigerations coils in low temperature or low humidity operation.

Indications



The compressor turns, the fan is off. After defrosting the device switches on again.

Indications



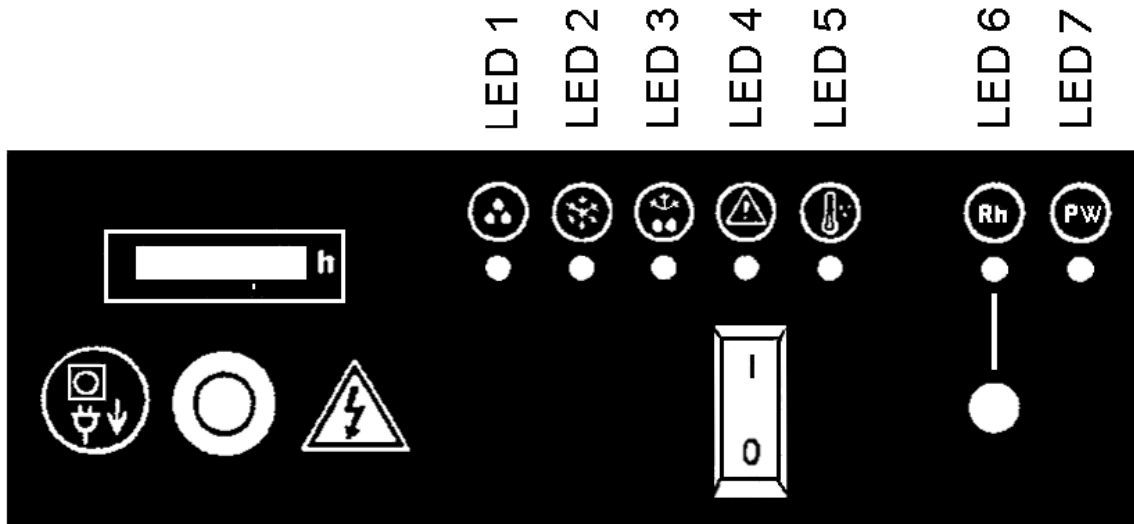
- a) Ambient temperature under 0 °C.
- b) Blinks when temperature rises over again 0 °C.
- c) Flashing will be stopped by momentary switching the unit off.

The device is equipped with an indication for eventual malfunction of the sensing elements, which control important values.

In case of a faulty sensing element, the device will turn off and the following LED diodes flash alternally:

RD 4S

LED 2 and LED 6 sensing element malfunction of evaporator
LED 4 and LED 6 sensing element malfunction of the aggregates maximum temperature
LED 5 and LED 6 sensing element malfunction of the room temperature
LED 7 sensing element for power supply (See also the point 6.)



Turn the main switch to OFF. Withdraw mains plug from socket.

Scope of application

To dehumidify the air in all rooms, cellars, living or professional localities (exception: stables).

As a security factor for stocking critical goods like paper, cardboard carton, foodstuff, coats etc.

As rust protection for metals.

To dry rooms and floor wet-cleaning, for paint and paper hanger's works. To dehumidify humid rooms like for example swimming pools.

To dry damages due to humidity (flood damage, inundation).

The recommended humidity for living rooms is about 50 % at 20 – 22 °C.

Important:

Temperature, humidity degree and operating conditions have influence on capacity of the appliance.

In winters with continuous frost, when the weather is dry or in summertime the air-humidity may be very low (30 %). In these cases the devices have only low or even no efficiency. If no means of humidity measurements are at hand, you can approximately check the humidity with the hygostat: the appliance must not be under tension! Turn slowly the knob of the hygostat anticlockwise. The flash above the knob shows approximately reached humidity - degree by a click sound.

 **Warning!**

All work on the refrigeration system is to be done by specialised persons only!



Always unplug power supply plug before working on the electrical system.

All work on the electrical installation must be carried out by a qualified electrician.

Malfunction	Possible Cause	Remedy
The appliance is plugged in but compressor and evaporator fail to function	a) No current b) Hygrostat incorrectly set c) Technical fault in refrigeration system	a) Check fuses and electrical connections b) Check hygrostat setting c) Contact after-sales service
Appliance runs but no condensation forms on evaporator.	a) Operating temperature range not reached or exceeded b) Operating air humidity range not reached c) Suction wall or blow-out wall obstructed d) Technical fault in refrigeration system	a) Use appliance in correct temperature range conditions or adjust room temperature accordingly b) Use appliance only at 30% humidity or above c) Allow adequate clearance of the appliance, clean or change the air-filter. d) Contact after-sales service

Attention: * By opening the access valve „Schrader“ refrigerant can be lost – it may be opened by specialized firms only.
 * The refrigerant is to be removed by specialized firms only.

RD 4S

Warning!

The appliance is delivered without any hose.
Drip pan is equipped with a mounted contact-nipple, the condensation-water can flow into an outlet which is situated below, without any survey in continuous duty.

Applicable models only



Cleaning



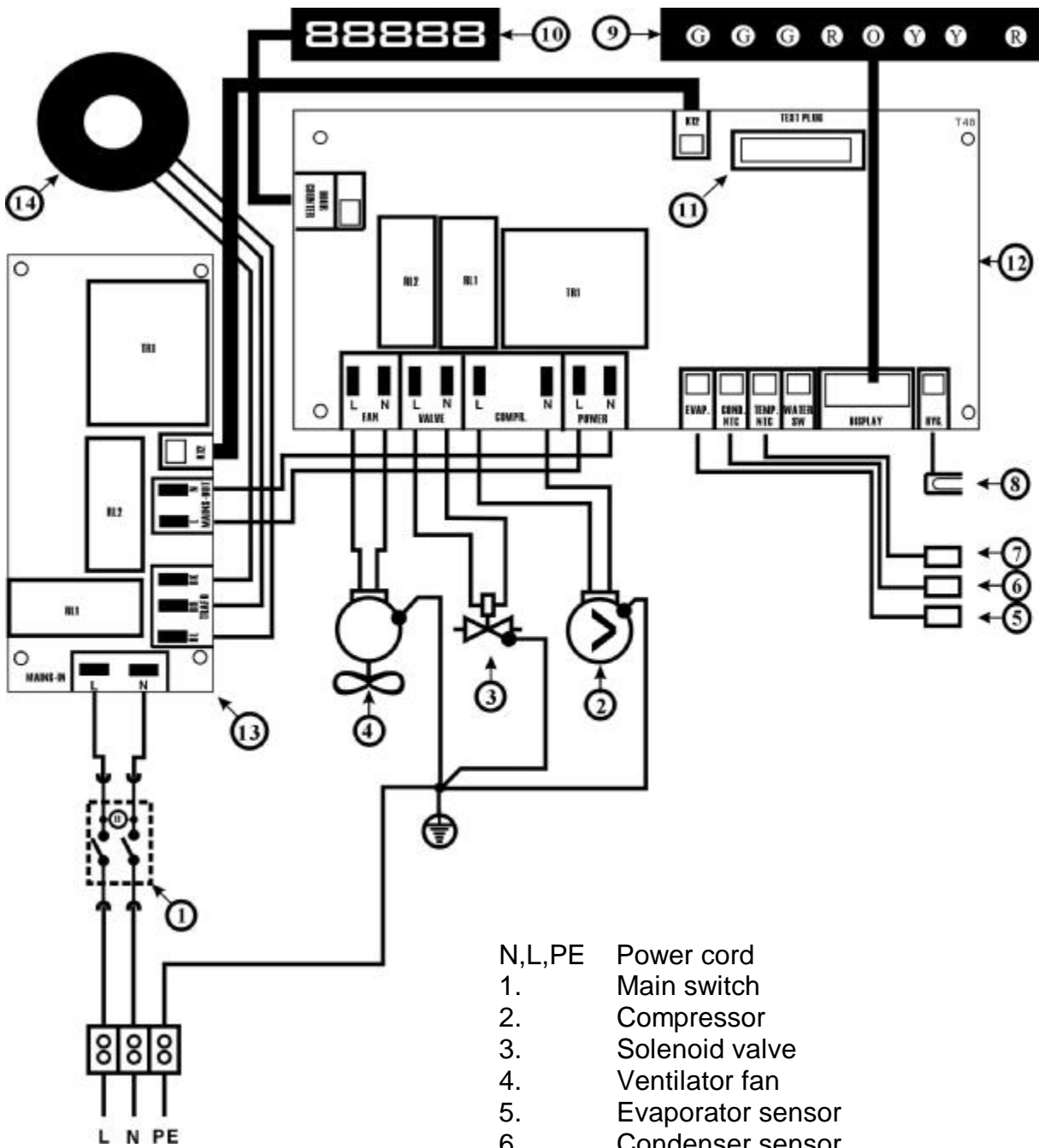
For cleaning, please use brush or compressed-air, don't use water or dissolvants.

Technical data	
Operating humidity range	30 – 95 %
Operating temperature range	0 - 35 °C
Dehumidifying capacity	40 l / 24 h
Nominal air delivery	500 m ³ / h
Electrical supply	110 /230 V / 50 Hz 650 W
Filling capacity	600 g R 407C
Basic size (W x D x H)	620 x 615 x 860 mm
Weight	49 kg

Max. power input indicated. Power input changes in dependance on air humidity and ambient temperature.

RD 4S

Conection diagram RD 4S



- N,L,PE Power cord
- 1. Main switch
- 2. Compressor
- 3. Solenoid valve
- 4. Ventilator fan
- 5. Evaporator sensor
- 6. Condenser sensor
- 7. Ambient temperature sensor
- 8. Socket for hydrostat
- 9. LEDs
- 10. Hour meter
- 11. TEST-conector
- 12. Control panel
- 13. Supply voltage switching panel
- 14. Autotransformer 110/230 V

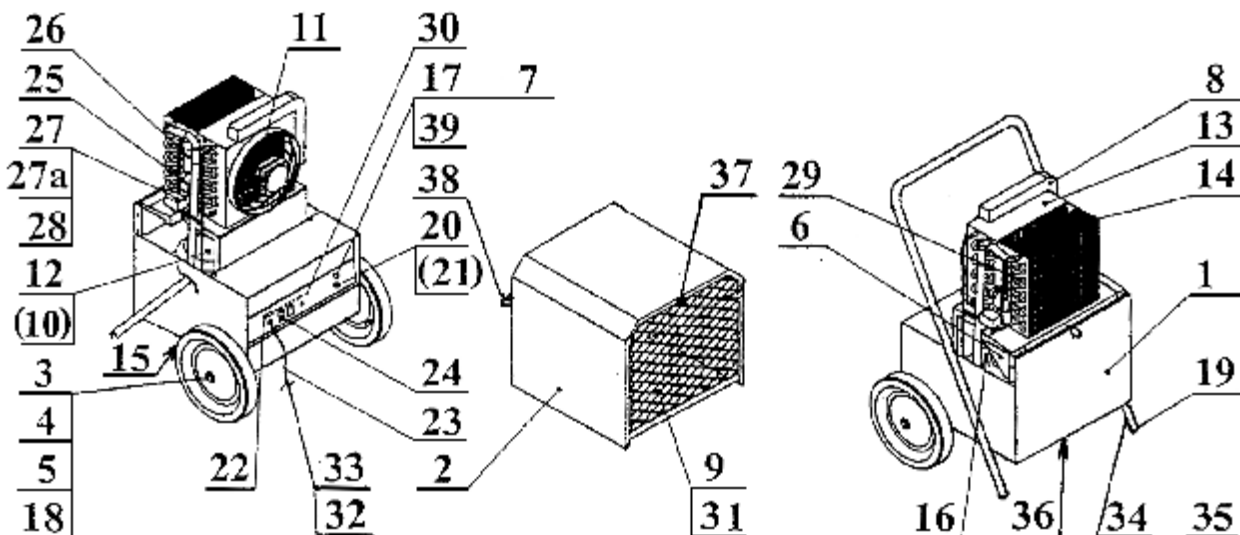
RD 4S

SPARE PARTS list

Symbol	Code	Description
1	030618	Base
2	030619	Cover
3	030620	Wheel
4	030621	Cap
5	030622	Lock washer
6	022855	Collector
7	021132	Autotransformer
8	021162	Condenser seal
9	021133	Air filter
10	021134	Complete refrigerating unit
11	004749	Fan
12	005098	Compressor
12a	024211	Running condenser
12b	024212	Starting condenser
13	004751	Condenser
14	022544	Evaporator
14a	021519	Evaporator complete
15	030956	Ambient temperature sensor
16	005110	Access Schrader valve
17	030950	Main PC-board
18	026462	Wheel washer
19	030628	Plastic blind flange

Symbol	Code	Description
20	022538	Socket for hygrostat
21	005148	Hygrostat whit cable and adapter
*22	035366	Working hours meter
23	021165	Power cord
23a	027757	Power cord with plug
24	004723	Main switch
25	005104	Metering coil
26	022540	Filter-drier
27	005106	Solenoid valve
27a	024009	Solenoid coil
28	030903	Maximum temperature sensor
29	030958	Temperature sensor evaporator
30	030955	LED panel complete
31	030627	Odour filter mat-set of 3 pieces
32	006584	Pipe union
33	006416	Lock - nut
34	030623	Protective frame
35	030624	Spacer
36	030626	Rubber trig
37	030625	Line holder
38	029706	Hose holder
39	030948	PC-board transformer

*till 06/04 - 005103



RD 4S

Guarantee

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.

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 the manufacturer leads to expiration of any right to warranty

Furthermore our „Conditions of Sales and Delivery“ are valid.
echnical modification for product improvement are subject to change without notice

RD 4S

BIRCHWOOD
PRODUCTS LIMITED

BIRCHWOOD
PRODUCTS LIMITED

BIRCHWOOD PRODUCTS LTD

UNIT 5, SOLOMAN ROAD
COSSALL INDUSTRIAL ESTATE
ILKESTON
DERBYSHIRE DE7 5UB
ENGLAND

TEL: 44 (0) 115 9442401

FAX: 44 (0) 115 9444455

EMAIL: sales@birchwood-products.co.uk

WEB PAGE: birchwood-products.co.uk

edit 11/2005