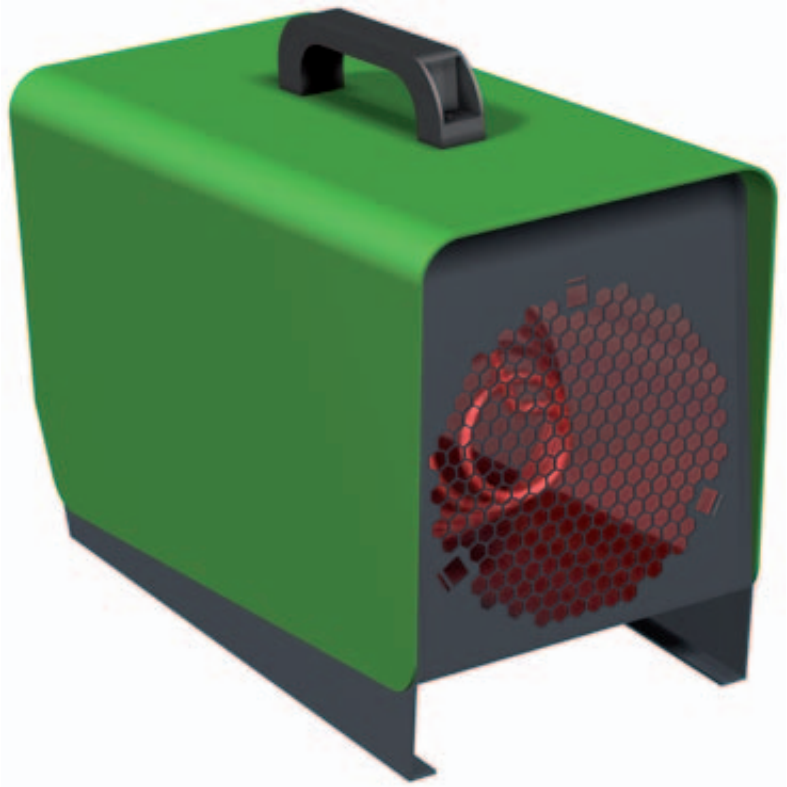
REMKO ELT 2-1

Electric heaters

Operation · Technology · Spare parts



Edition GB – V01

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CE

Made by REMKO

These operating instructions must be read carefully before commissioning/using the unit!

These instructions are part of the unit and must always be kept near to the site of installation or at the unit.

Subject to changes; errors and typographical errors excepted!

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Safety information

Operation of the heaters must always take place in compliance with the local building and fire protection regulations and regulations of the employers' liability insurance associations.

The units were subjected to extensive material, functional and quality inspections and tests prior to delivery. However, the units may constitute a hazard if used by untrained personnel, improperly or not for the intended purpose.

The following information must be observed

- Before starting work, persons responsible for the operation of the units must check for obvious defects on control and safety devices and for the presence and correct functioning of protective devices.
  Any noticed defects must be reported to the responsible supervisor!
- Units that have defects liable to affect their reliability must immediately be switched off.
- For using the units, the respective local regulations and electrical fuse ratings must be taken into account.
- Safety distances to flammable objects must be maintained.
- The air inlet and air outlet vents must be kept free at all times.
- The air outlet vents must not be restricted or pipes or hoses connected.
- Never insert foreign objects into the units.
- The units must not be covered whilst in operation.
- Safety devices must not be overridden or blocked.
- The units must not be used near to baths, showers, swimming pools, etc.
- The units must not be used directly below a wall socket-outlet.
- The units must not be exposed to direct water jets, e.g. **high pressure cleaners, etc.**
- Never allow water to enter the unit.
- The units must not be installed and used in locations subject to fire and explosion hazards.
- The units must not be installed and used in oil, sulphur, or salt-laden atmospheres.
- All electrical cables of the units must be protected against damage, also damage caused by animals.

⚠ ATTENTION

Safety devices must not be overridden or blocked.

Unit description

The units are portable electric heaters for commercial use. The units are designed solely for electrical use and for fully automatic, universal and problem-free operation.

The units have special encapsulated electric heating resistors, a low noise and maintenance axial flow fan, a safety and cooling thermostat, an integrated room thermostat and power cable with earthing pin plug.

The units comply with the fundamental safety and health requirements of the pertinent EU directives.

The units are reliable and easy to operate.

The units also have the following applications:

- Drying new buildings.
- Concentrated heating of outdoor workplaces or for use in halls and manufacturing facilities not subject to fire hazards.
- Continuous or temporary room heating.
- De-icing of machines, vehicles and non-flammable stored goods, maintaining the appropriate safety distances.

Commissioning

Operation

The units can be used in the respective modes for air heating and air circulation.

The units are operated on *one* heat and *one* fan setting. They have a three-position operating switch with the functions:
Heat (I)/Off (0)/Fan (II).
In the setting I (Heat), the heating resistor and air circulating fan are switched on and warm air is blown out.

In order to ensure a constant room temperature, the unit has an integrated room thermostat.
The thermostat switches off the heater when the selected temperature is reached and switches it on again when the temperature falls below the selected value.

The integrated temperature limiter switches off the unit if the temperature is excessively high and switches it on again automatically after it has cooled down.

In the setting II (Fan), only the air circulating fan is switched on and the unit can only be used for air circulation.

After switching off the unit at the operating switch or room thermostat, the air supply fan continues to run for a certain period of time to cool the heating resistors and switches off automatically.

Operation and monitoring of the units must be carried out by one person who has been adequately instructed in the use of the unit.

1. Check the system voltage for correspondence with the unit voltage 230V/1~/50 Hz.
2. Set the operating switch to position "0".

3. Plug the unit into a properly installed mains socket-outlet.

NOTE

Electrical connection of the units must be made at a separate supply point using a residual-current-operated circuit-breaker according to VDE 0100 § 55.

ATTENTION

Only authorised electricians may extend the connecting cable taking into account the rating of the unit, cable length and use locally.

ATTENTION

All cable extensions must be used only uncoiled or unwound.

Heat

The unit operates fully automatically depending on the temperature set at the thermostat.

1. Setting the required room temperature at the thermostat

2. Set the operating switch to position "I" Heat.

NOTE

For optimal operation, the units should not be operated at ambient temperatures above 25°C.

Fan

In this position, only the supply air fan runs. Thermostatic control and heating are not possible.

1. Set the operating switch to position "II" Fan.

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Decommissioning

1. Set the operating switch to position “0“ (Off).

The supply air fan continues to run to cool down the unit and switches off when an adequately low temperature is reached.
The fan may run several times until it switches off permanently.

2. The units must be disconnected from the supply if they are not going to be used for extended periods of time.

⚠ ATTENTION

The unit must never be disconnected from the mains supply before the cooling phase has ended. Damage attributed to overheating is not covered by the warranty.

Care and maintenance

Regular care and the observance of a few basic conditions will guarantee trouble-free operation and a long service life of the units.

⚠ ATTENTION

Before carrying out all work on the unit, the mains plug must be disconnected from the mains socket-outlet.

- Observe regular care and maintenance intervals.
- Depending on the particular operating conditions, the units should be tested by an expert for reliable operation as necessary, however at least once a year.
- Keep the unit free of dust and other deposits.
- Only clean the units dry or with a moist cloth.
- Do not use direct jets of water, **e.g. high pressure cleaners, etc.**
- Do not use caustic cleaning agents or those containing solvents.
- Check the air inlet and air outlet grilles for clogging.
- Check the safety and protective devices at regular intervals.
- Do not damage the sensor and capillary tube of the thermostat when removing or fitting the rear panel of the unit.

⚠ ATTENTION

After completing all work on the unit, an electrical inspection must be carried out according to VDE 0701.

Troubleshooting

The unit (fan) does not start.

1. Check the local mains fuses.
2. Check the mains plug.
3. Check the operating switch.
4. Check the fan for smooth operation.

The unit does not heat

1. Set the thermostat to a value above room temperature.
2. Check function of the thermostat.
3. Check the operating switch.
4. Check the function of the contactor.
5. Check the function of the temperature limiter and inspect for damage.

If no result is achieved after carrying out all functional checks, an authorised service station should be contacted.

NOTE

Only authorised electricians may carry out repairs.

Intended use

Due to their design and equipment, the units are intended solely for heating and air circulation in industrial or commercial use.
Only suitably trained personnel must operate the units.

The manufacturer is not liable for any damage attributed to failure to observe the manufacturer's instructions or applicable statutory requirements or unauthorised changes to the units.

NOTE

Use or operation for any other purpose than that described in these operating instructions is not permitted.
Failure to observe this requirement will result in all liability being disclaimed and the warranty rendered invalid.

ATTENTION

Customer service and warranty

A precondition for any warranty claims is that the dealer or his customer has completed and returned the enclosed "**Warranty document**" to REMKO GmbH & Co. KG at the time of sale and commissioning.

The units were repeatedly tested at the factory to ensure that they function correctly.
Nonetheless, if the unit should have a fault that cannot be remedied by troubleshooting, your specialised dealer or contract partner should be contacted.

NOTE

Only authorised specialists may make adjustments and carry out maintenance work!

Environmental protection and recycling

Disposal of packaging

Think of the environment when disposing of the packaging material.
Our units are carefully packed for transport and delivered in sturdy cardboard and polystyrene packaging.
The packaging materials are environmentally-friendly and can be recycled.
By reusing packaging material, you make a valuable contribution towards waste reduction and the conservation of raw materials.

Only dispose of packaging material at the facilities provided.

Disposal of the old unit

Our unit production is subject to constant quality controls.

Only high-quality materials are used, the majority of which are recyclable.

Make your contribution towards environmental protection by disposing of your old unit in an environmentally-friendly manner.

Only dispose of your old unit at an authorised recycling facility or collection point.

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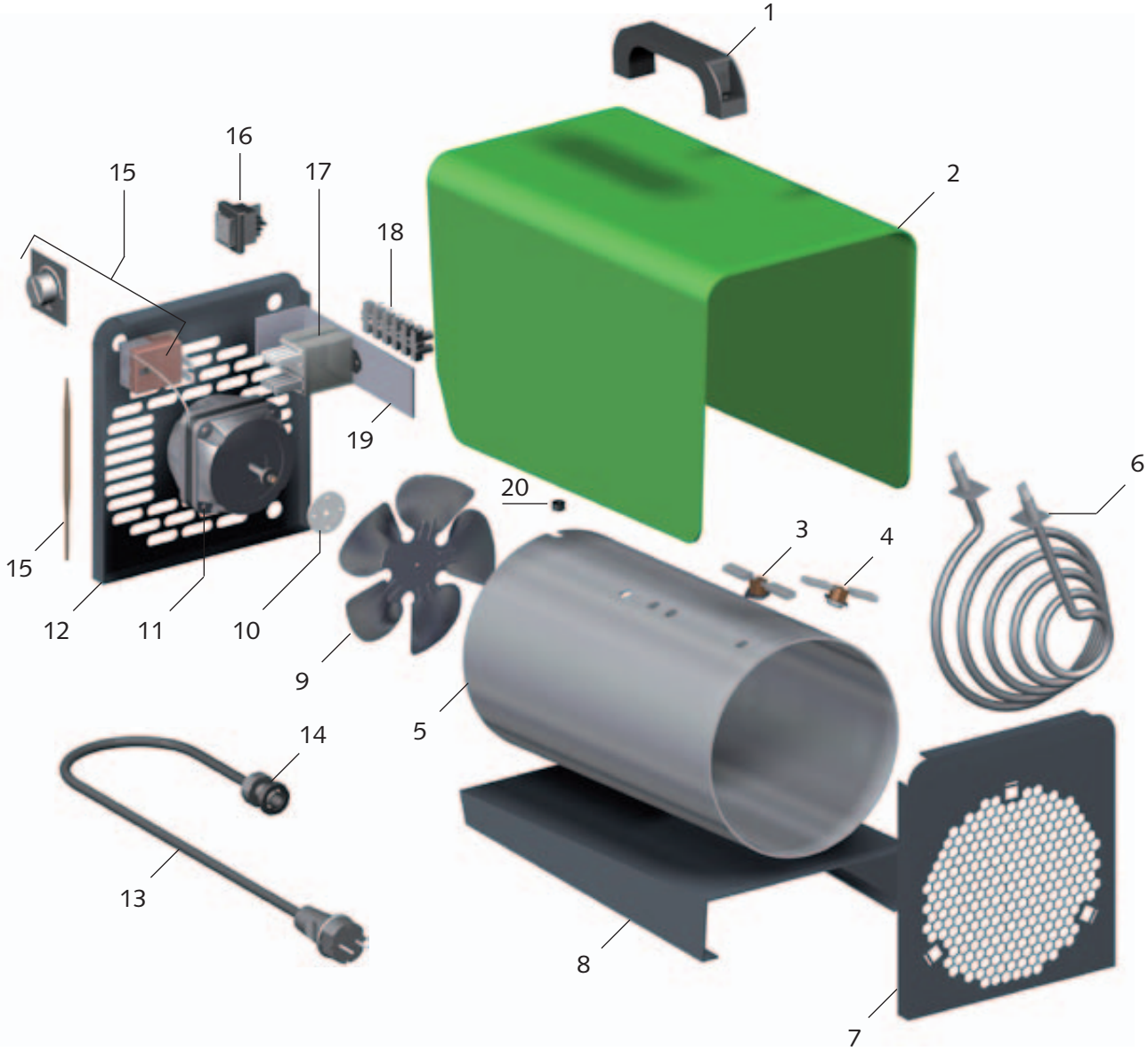
Exploded view



We reserve the right to make changes in dimensions and design in the interest of technical advances.

Spare parts list

No.	Designation	EDP No.
1	Transport handle	1103903
2	Outer casing	1103928
3	Cooling thermostat	1104065
4	Temperature limiter	1101161
5	Inner casing	1103931
6	Heating resistor	1103909
7	Front panel	1101063
8	Base plate	1103932
9	Fan blade	1103819
10	Driving coupling	1103912
11	Fan motor	1103820
12	Rear panel	1103915
13	Power cable with plug	1101320
14	Strain relief	1103904
15	Thermostat, complete	1101066
16	Operating switch, complete	1101188
17	Auxiliary relay	1108038
18	Six terminal strip	1101366
19	Mounting plate	1101067
20	Protective sleeve	1101304

When ordering spare parts, please always also quote the serial number and unit type (see rating plate) in addition to the EDP number!

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Maintenance log

Unit type: ..... Serial number: .....

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Unit cleaned – externally –																				
Unit cleaned – internally –																				
Fan blade cleaned																				
Protective grille cleaned																				
Safety devices checked																				
Protective devices checked																				
Unit checked for damage																				
All fixing screws checked																				
Electrical safety check																				
Test run																				

Remarks: .....

.....

.....

1. Date: .... Signature	2. Date: .... Signature	3. Date: .... Signature	4. Date: .... Signature	5. Date: .... Signature
6. Date: .... Signature	7. Date: .... Signature	8. Date: .... Signature	9. Date: .... Signature	10. Date: .... Signature
11. Date: .... Signature	12. Date: .... Signature	13. Date: .... Signature	14. Date: .... Signature	15. Date: .... Signature
16. Date: .... Signature	17. Date: .... Signature	18. Date: .... Signature	19. Date: .... Signature	20. Date: .... Signature

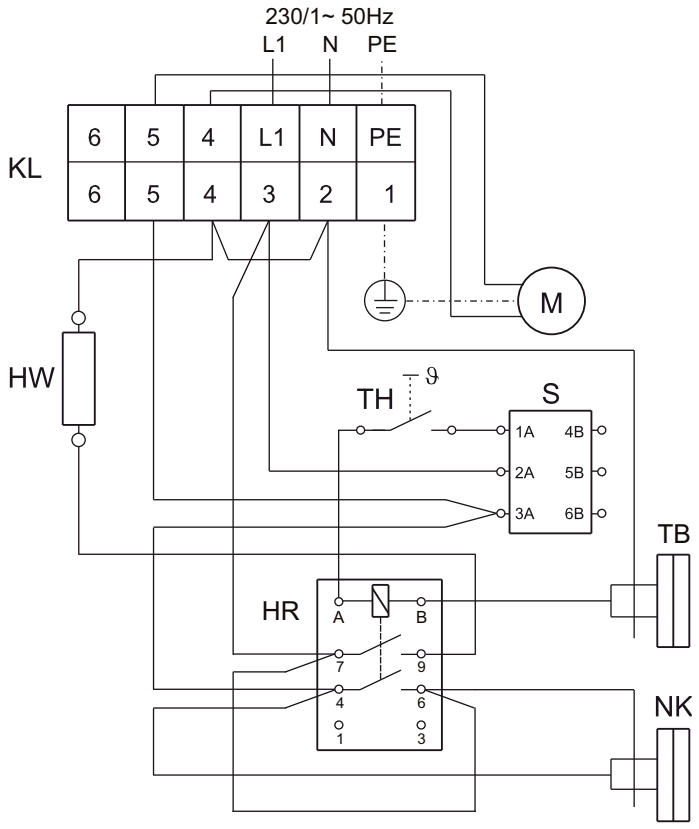
The unit must only be serviced by authorised specialists in compliance with the statutory requirements.

Technical data

Series			ELT 2-1
Nominal heat output		kW	2.2
Switchable heat output		kW	2.2
Air capacity		m3/h	250
Air outlet temperature [1]		°C	82
Power supply		V/Hz	230/1~/50
Max. nominal current		A	9.5
Max. power input		kW	2.25
Fuse protection (local)		A (slow-acting)	16
Sound pressure level LpA 1m [2]		dB (A)	46
Dimensions:	Length	mm	300
	Width	mm	200
	Height	mm	315
Weight		kg	6.0

[1] at 20°C suction temperature
[2] Noise measurement DIN 45635 - 01 - KL3

Electrical wiring diagram



Legend:

HR = Auxiliary relay
HW = Heating resistor
KL = Terminal strip
M = Fan motor
NK = Cooling thermostat
S = Operating switch
TB = Temperature limiter
TH = Thermostat

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REMKO INTERNATIONAL

… and also right in your neighbourhood! Make use of our experience and advice

Advice
We keep the specialist knowledge of our advisers continuously up-to-date with intensive training. This has earned us a reputation as more than just a good, reliable supplier: REMKO, a partner who is here to help solve problems.

Distribution
REMKO provides not only a well-developed distribution network in Germany and abroad, but also unusually highly skilled professionals in distribution. REMKO staff in the field are more than mere salespeople: they must primarily act as advisers in air conditioning and heating technology for our customers.

Customer Service
Our units work precisely and dependably. Should a failure occur, however, REMKO customer service will rapidly be at your side. Our comprehensive network of experienced dealers guarantees quick and reliable service.

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Air conditioning and heating technology

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