

PRACTICAL ADVANTAGES:

TDE series electrical heating units:

Extremely durable design with hardened hammer-finish paintwork

Zinc-plated air outlet grid, corrosion-proof steel air inlet grid

High operating safety due to overheating safety mechanism

Connection for a hot-air pipe

Mobile compact heating units

The robust heating solution for construction, industry, agriculture

Highly mobile: Robust castors make the TDE 65 and 95 quick and easy to move from one job to the next.

TDE series

Specially adapted professional heating equipment for the most demanding material and performance requirements.

The extremely robust design means that these electrical heating units can be used for a multitude of applications in the professional sector and their durability is ensured. Even larger rooms (1,520 m³ with the TDE 95) are heated within a short time due to their high blower performance.

On connection of an interior temperature thermostat, an even temperature can be attained that consistently matches your requirements.

Optimum design for use in extreme conditions, e.g. hiring, frequent building site changes, warehouses etc.

Interior temperature thermostat – accessories TDE 65 and TDE 95

The condensation-free heat from electrical heating units is suitable for use in unventilated spaces since no oxygen is consumed!

TDS series

Highly versatile electrical heating units

A heat-protected motor, standard overheating thermostat and a front airflow grill underline the high quality design of the TDS heating appliances.

There are four heat settings and output can be controlled via the integrated room thermostat.

Ideal for stationary use, e.g. construction, agriculture, painting and decorating.



Temperatures for drying buildings

The higher the room temperature, the shorter the drying time!

Additional heating should be used when drying buildings at the latest at temperatures under 10 °C, since moisture can barely adhere to the air in such climatic conditions.

However, if dryers are used in combination with heaters, care must be taken that the heater is not close to the dryer, otherwise the dryer would suck in the warm, dry air. The result would be that practically no more condensation could take place in the dehumidifier's heat exchanger and the dehumidifying performance would drastically decrease.

In the case of individual rooms and areas up to the size of a detached house, heating with electric heaters is recommended for practical reasons (see technical info "Differences between the various heating methods").

The following formula can be used to make a rapid overall estimation of the heating performance for small rooms up to 1,000 m³:

Q x k-value x temperature difference : kcal.

In words: **Q** (room volume in cubic metres) times **k-value** times **desired temperature difference = required kcal.**

To convert kcal. into Watt, use the following formula:

measured kcal. x 1.16 = Watt

Calculation example, complete house:

(approx. 140 m², room height 2.7 m, windows installed)

Room volume Q:	378 m ³
Insulation/k-value:	2.0
External min. temp. approx.:	-2 °C
Desired room temp.:	12 °C
Temperature difference:	14 °C

Calculation: 378 x 2 x 14 x 1.16 = 12,277 Watt = approx. 12 kW

k-values in practice are shown in the following diagram:

Average k-values

Insulation	k-value
good (new building)	1.2
average	2.2
bad (old building)	3.0
none, or almost none	4.0

Technical data	TDE 25 T	TDE 25	TDE 65	TDE 95
Article no.	HE3000085	HE3000080	HE3000100	HE3000300
Heating performance kW	3	3	6 - 9 - 12	9 - 13.5 - 18
Voltage	230 V/50 Hz	230 V/50 Hz	400 V/50 Hz	400 V/50 Hz
Current	13.4 A	13.4 A	18 A	27.2 A
Air volume flow	250 m ³ /h	250 m ³ /h	600 m ³ /h	1,520 m ³ /h
Overheating protection	yes	yes	yes	yes
Mobility	portable	portable	moveable	moveable
Air outlet opening mm	155	155	300	300
Thermostat	inclusive	accessory	accessory	accessory
Dimensions L x W x H mm	279 x 254 x 305	279 x 254 x 305	610 x 356 x 445	470 x 406 x 578
Weight kg	9.2	9.2	25	32

Technical data	TDS 20	TDS 50	TDS 75	TDS 100
Article no.	HE3000052	HE3000056	HE3000058	HE3000060
Heating performance kW	1.5 - 3	4.5 - 9	7.5 - 15	11 - 22
Voltage	230 V/50 Hz	400 V/50 Hz	400 V/50 Hz	400 V/50 Hz
Current	13 A	13 A	21.7 A	32 A
Air volume flow	400 m ³ /h	780 m ³ /h	990 m ³ /h	2,200 m ³ /h
Overheating protection	yes	yes	yes	yes
Mobility	portable	portable	portable	portable
Electrical connection	Integrated connecting cable, length 1.5 m	16 A plug*	32 A plug*	63 A plug*
Thermostat	inclusive	inclusive	inclusive	inclusive
Dimensions L x W x H mm	255 x 260 x 410	340 x 430 x 490	370 x 470 x 540	510 x 590 x 620
Weight kg	6	11	16	23

*Connecting cable not scope of supply



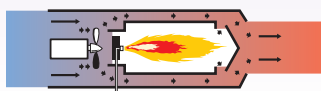
Differences between the various heating methods

All mobile heating appliances required an energy supply, which is converted to heat in various ways depending on the method, and then released into the surrounding area.

The most common methods distinguish between **direct and indirect heaters**, in which heat is generated by the combustion of the source of energy supplied, for example heating oil or gas, as well as **electrical heaters** in which electrical current is used to generate heat.

Direct and indirect heaters

In a direct-fired system, for example a gas heater or a simple oil heater, the fan which blows out the heated air also supplies the combustion air.



The fuel is atomised in the combustion chamber, ignited and burnt. The hot gases are subsequently mixed in an exact dose with the main air current from the fan.

For this reason it is said that this process has a 100 % output, since the entire heat generated is actually available to heat the room.

However, besides heat, direct heaters also release exhaust gases and moisture from the combustion process directly into the room, therefore closed rooms must be very well-ventilated!

Direct heaters are totally unsuitable for drying building, because for every litre of fuel burnt, around 1.64 kg of additional water vapour is generated, which then condenses on the walls and ceilings. In the worst case, the building would be damper than before after using a direct heater!

To generate clean, dry heat without combustion products or water vapour entering the room air, the use of indirect heaters is necessary. In an indirect heater, the heated air is completely separate from the combustion chamber.

Electric heaters

These heaters offer the safest, fastest and most convenient method of simple heating, because only an electricity supply is required.

Electric heaters are distinguished by the method of heat transport. In the case of electric hot blowers such as the TDE or TDS series, the heat generated is transported by air via an internal fan and distributed evenly throughout the room. In the case of infrared electric heaters, the heat is transported by light waves. **Unlike direct-fired gas or oil heaters, electric heaters require no oxygen and do not produce any combustion exhaust gases.**

Summary: The choice of the optimum heating appliance always depends on the respective application. For example, indirect heaters are ideal for rooms where only limited ventilation is possible, or where there is a risk of fire due to the presence of inflammable materials. **Electric hot blowers are ideally suited to the heating of interior rooms, above all to assist dehumidifiers in drying out buildings faster!**

