

# IDE 20 / IDE 30 / IDE 50 IDE 60 / IDE 80

**EN**

**OPERATING MANUAL**  
OIL HEATER





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## Information on the use of this manual

This operating manual contains all important information required for a safe start-up and use of your oil heater.

It supports you in the application of the device and in resolving potential problems, and provides you with information on disposal and customer service.

Read this manual completely before using the oil heater for the first time.

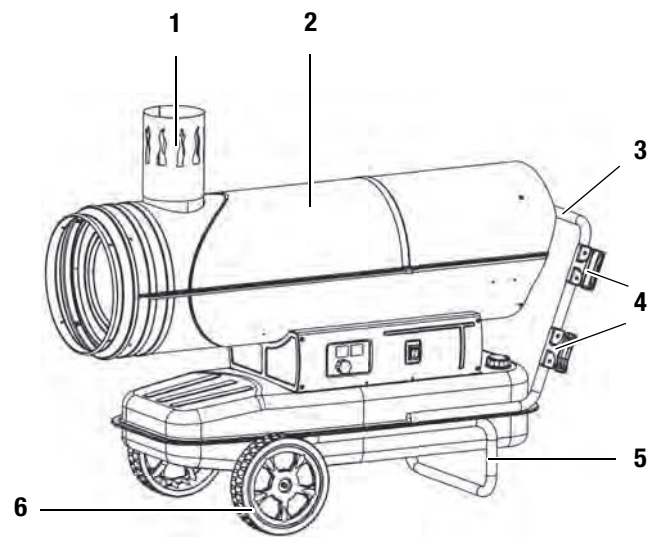
Keep these operating instructions so that they are always at hand and can be consulted if required.

Observe all safety instructions and information on use and care contained herein.

The manual should be supplied with the device if you hand it over to other persons for use.

## Scope of delivery

The scope of delivery of the oil heater contains:



No.	Designation
1	chimney connection
2	oil heater IDE
3	carry handle
4	power cable holder (not supplied with IDE 20)
5	support
6	wheel 2x
+	installation material (not pictured)
+	operating manual (not pictured)

## General safety



*Observe the following safety instructions! Non-observance can have severe consequences for the health of persons and can entail property and environmental damage.*

### Explosion hazard!

- Do not use the device in areas with a fire hazard or in potentially explosive areas. Do not install it there either.
- Do not place the device on combustible ground.
- Remove flammable materials and chemicals from the direct operating environment.

### Functional impairment or damage to the device!

- Set the device up in a stable position.
- Keep inlet and outlet openings clear.
- Do not cover the device during operation.
- Only disconnect the device from the mains once it has cooled down completely.
- Do not use any chemicals to clean the device.

### Risk of injury and property damage due to defective devices!

- Check accessories and connection parts for possible damage prior to every use of the device. Do not use any defective devices or device parts.
- Do not under any circumstances use the device if you detect damages on the plug or cables. Defective power cables pose a serious health risk.

### Risk of death due to electric shock!

- Only connect the device to technically intact power sources. Do not use damaged sockets!
- Hold the plug while pulling the connection cable out of the socket.
- Do not touch electric connection cables with wet hands!
- Protect electric connection cables from damages, e. g. caused by animals.
- Do not modify or repair the device!
- Do not expose the device to any fluids.
- Do not bring any fluids into the inside of the device. Should this happen nonetheless, pull the mains plug and have the device checked by a specialist workshop.

### Risk of injury!

- Do not put any objects into the air inlet or outlet of the device!
- Do not reach into the openings.
- Do not leave children or animals near the running device unattended!
- **Do not operate the device in rooms with an insufficient combustion air supply.**
- Avoid improper handling of fuel.

### Risk of environmental pollution!

- Do not let leaking fuel seep into the soil or get into the sewage system.

## Function and product features

The oil heaters IDE 20, IDE 30, IDE 50, IDE 60 and IDE 80 are used to heat room air for quickly heating large rooms. The oil heater runs on EL fuel oil or diesel only. It is a device with indirect combustion that is equipped with an exhaust gas connection for the discharge of exhaust gases via the chimney.

## Technical data

Type	IDE 20	IDE 30	IDE 50	IDE 60	IDE 80
Article number	1,430,000,215	1,430,000,220	1,430,000,230	1,430,000,235	1,430,000,240
Parameter	Value	Value	Value	Value	Value
Mains connection	1/N/PE~ 230 V 50 Hz				
Current consumption	0.8 A	1.5 A	3.2 A	3.7 A	3.7 A
Heating capacity nom.	20 kW	30 kW	50 kW	60 kW	80 kW
Air volume flow	600 m <sup>3</sup> /h	760 m <sup>3</sup> /h	2000 m <sup>3</sup> /h	2000 m <sup>3</sup> /h	2000 m <sup>3</sup> /h
Fan	axial	axial	axial	axial	axial
Temperature increase $\Delta T$	85 °C	80 °C	95 °C	75 °C	90 °C
Fuel consumption	1.6 l/h	3.4 l/h	4.6 l/h	5.2 l/h	7.8 l/h
Tank contents	24 l	50 l	68 l	68 l	68 l
Chimney connection	ø 120 mm	ø 120 mm	ø 150 mm	ø 150 mm	ø 150 mm
Thermostat connection	series	series	series	series	series
Combustion	indirect	indirect	indirect	indirect	indirect
Noise level (distance 1 m)	65 dB(A)	75 dB(A)	75 dB(A)	85 dB(A)	85 dB(A)
Length	835 mm	1,075 mm	1,370 mm	1,275 mm	1,275 mm
Width	360 mm	445 mm	560 mm	505 mm	505 mm
Height	515 mm	565 mm	995 mm	795 mm	795 mm
Weight	20.9 kg	34.6 kg	59.5 kg	59.5 kg	59.4 kg

## Fuels

The following fuels are approved for the oil heaters IDE 20 / IDE 30 / IDE 50 / IDE 60 / IDE 80: EL fuel oil, diesel

**Intended and improper use**

**Intended use**

The oil heater IDE was designed to produce warm air in interior spaces, halls and outdoor areas.

The device is suited for heating large rooms such as storage spaces, workshops, construction sites, halls and greenhouses. It is intended to be used without frequent displacement.

Every application going beyond these terms of use is prohibited!

**Improper use**



*The device must not be positioned or operated in areas with a high risk of fires or in potentially explosive atmospheres.*

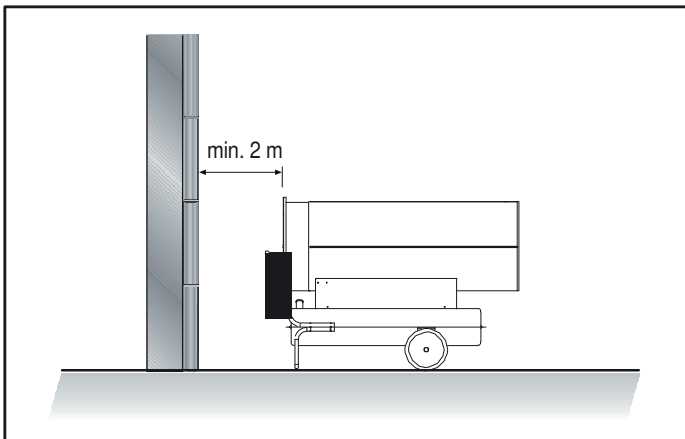
*The device must not be operated in rooms with an insufficient combustion air supply.*

**Installation conditions**

A number of spatial and technical conditions have to be considered for the selection of the oil heater's installation site. Non-observance may impair the proper functioning of the device or the accessories or can entail risks of personal injury and property damage.

The following is to be observed for positioning:

- The device is to be set up in a stable position on incombustible ground.
- The device is to be installed near a chimney or an outer wall.
- The device must be connected to a properly secured mains power socket.
- The room where the device is positioned must be sufficiently ventilated.
- The minimum distance between the wall and the air inlet opening of the device must be at least 2 m (see figure).

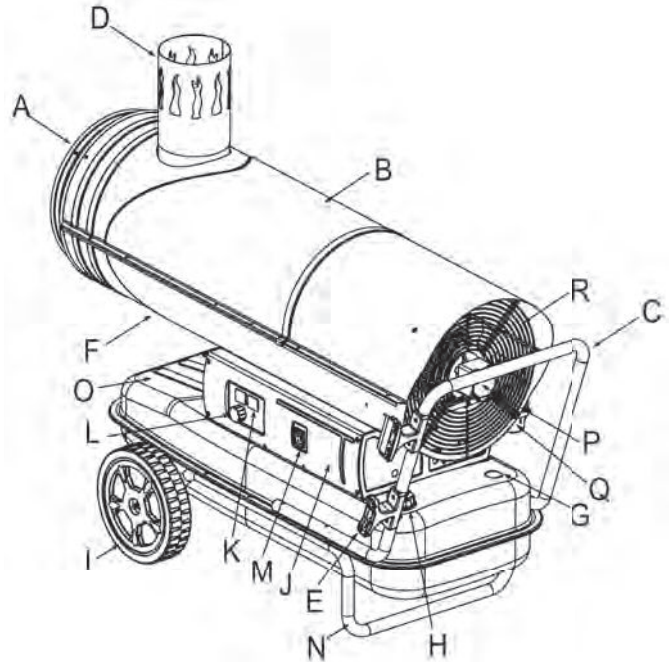


- The minimum distance between the device and combustible materials must be at least 3 m.
- The inlet and outlet openings must not be covered.
- There must be no walls or large objects near the device.
- There must be a sufficient number of fire extinguishers available.
- If the device is installed outdoors, it must be positioned under a roof and protected from rain.

**Description of the device**

The oil heaters IDE 20 / IDE 30 / IDE 50 / IDE 60 / IDE 80 consist of the following components:

**Oil heater**



No.	Designation
A	air outlet
B	upper cover
C	carry handle
D	chimney connection
E	power cable holder
F	lower cover
G	tank indicator
H	fuel tank cap
I	wheel
J	control panel
K	temperature indicator
L	temperature selection
M	main switch
N	lower tubular frame
O	tank
P	pump
Q	fuel filter
R	fan

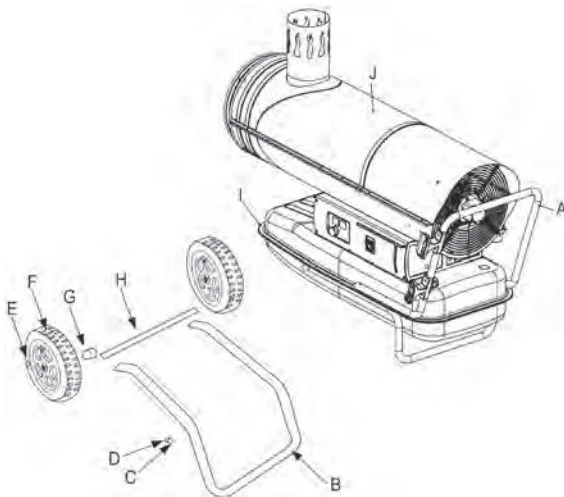
## Final assembly

### Wheel assembly

The device is delivered almost ready for operation. For start-up, only the tubular frame and the wheels must be assembled.

Proceed as follows:

- Guide the wheel axle (H) into the corresponding mount of the lower tubular frame (B).
- Slide the washer (G) onto the axle and mount both wheels (E) onto the axle (H).
- Secure them with the cover caps (F).
- Position the device (I) on the lower tubular frame and insert the supplied screws (C) through the openings for the tubular frame/tank assembly.
- Mount the upper tubular frame (A) onto the tank and fasten the tubular frames with the supplied nuts.
- Finally check all screws and clamp connections for tight fit.



### Assembly of the exhaust line



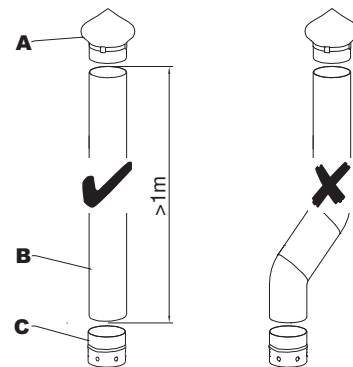
**Note that this device must not be put into operation unless there is an exhaust line assembled at the chimney connection!**

### Assembly of the chimney adapter

For outdoor use and for use in partly closed, well-ventilated rooms without an exhaust system, it is necessary to mount a simple chimney adapter (B) to the chimney connection (C).

Observe the following:

- The adapter (B) must have a minimum length of 1 m.
- Bends and elbows in this line are prohibited.
- If the device is used outdoors, a weather protection (A) must be mounted to the end.



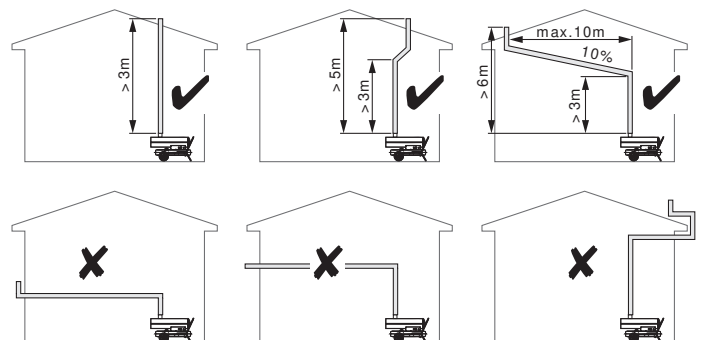
### Assembly of a closed exhaust line

If the device is used in closed rooms and the combustion gases are discharged via a chimney, a fresh air supply of approx. 80 m<sup>3</sup>/h (air inlet opening approx. 0.5 m<sup>2</sup>) must be ensured.



**Make sure that in every operating and weather condition a vacuum of > 0.1 mbar is created in the exhaust line. This vacuum guarantees a safe discharge of exhaust gases from the room. The exhaust line must be installed upward. There must be no bends or elbows in the first 3 metres of the exhaust line!**

Below are some examples of good and bad exhaust gas discharge:



## Installation and start-up

- Check the scope of delivery of your oil heater for completeness. If an accessory part is missing, please contact the Trotec customer service or the specialist dealer where you purchased the device.
- Check the oil heater and its connection parts for potential damage.
- Mount the support/carry handle and the wheels onto the oil heater.
- Observe the conditions described in the chapter Installation conditions.
- Install the exhaust line of the device properly to a chimney or an outer wall as depicted in the chapter Exhaust system.
- Fill the tank with fuel oil when the device is switched off and cooled down.
- Check the device for its proper condition prior to start-up and at regular intervals during application.
- Check whether the characteristics of the power grid conform to those on the rating plate.
- Each time before you plug the mains plug into the mains socket and switch on the device, make sure that the fan is moving freely.
- Connect the mains cable to a properly secured mains socket (230 V / 50 Hz / 10 A).  
On construction sites, there must be an RCD upstream of the socket according to VDE 0100/0105.

The oil heater is now ready for operation. Use the device in accordance with the functions described in the chapter Functions and operation.

## Exhaust system

- Prior to planning of the exhaust system, inform the competent chimney sweep according to DIN 18160.



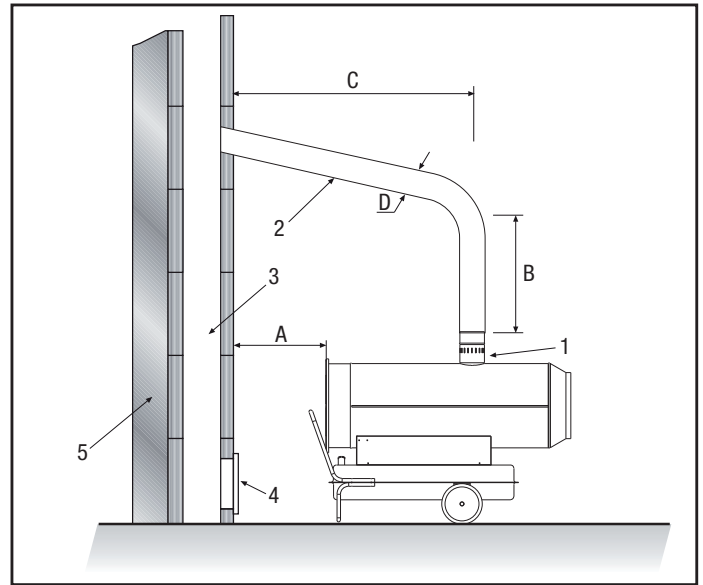
### **Risk of injury due to poisoning!**

*An improper installation of the exhaust system can cause health problems.*

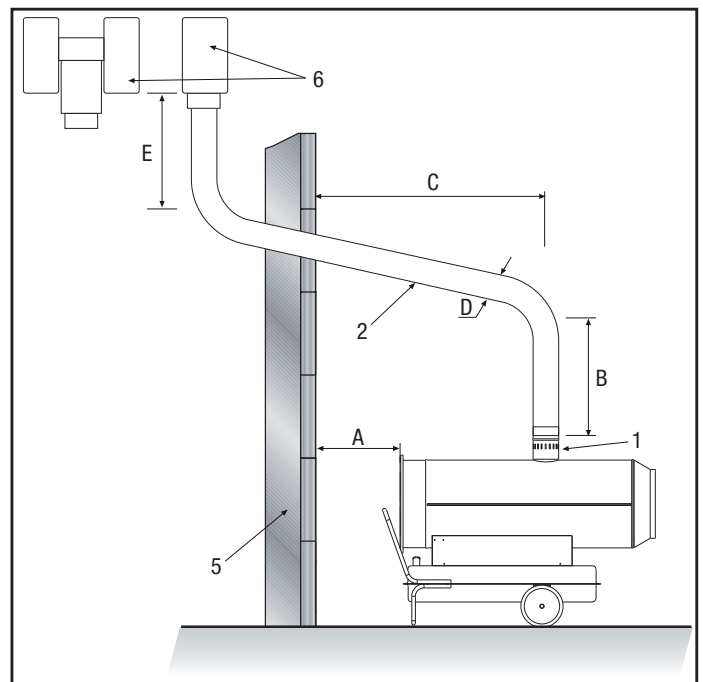
*Have the system installed by an expert craftsman!*

- Ensure an unimpeded and sufficient combustion air supply (e. g. by means of ventilation openings in doors, ceilings, windows, walls or via interconnected airways).
- Have the exhaust emission of the burner checked at regular intervals.

## Chimney duct



## Wall duct



A	min. 2 m	1	chimney connection
B	min. 1 m	2	wall duct with elbow min. 5°
C	as short as possible	3	chimney - interior min. 20x20 cm
D	≥ ø 120 mm/150 mm	4	cleaning opening with explosion protection flap
E	min. 1 m	5	outer wall
		6	draft intensifier H-shaped

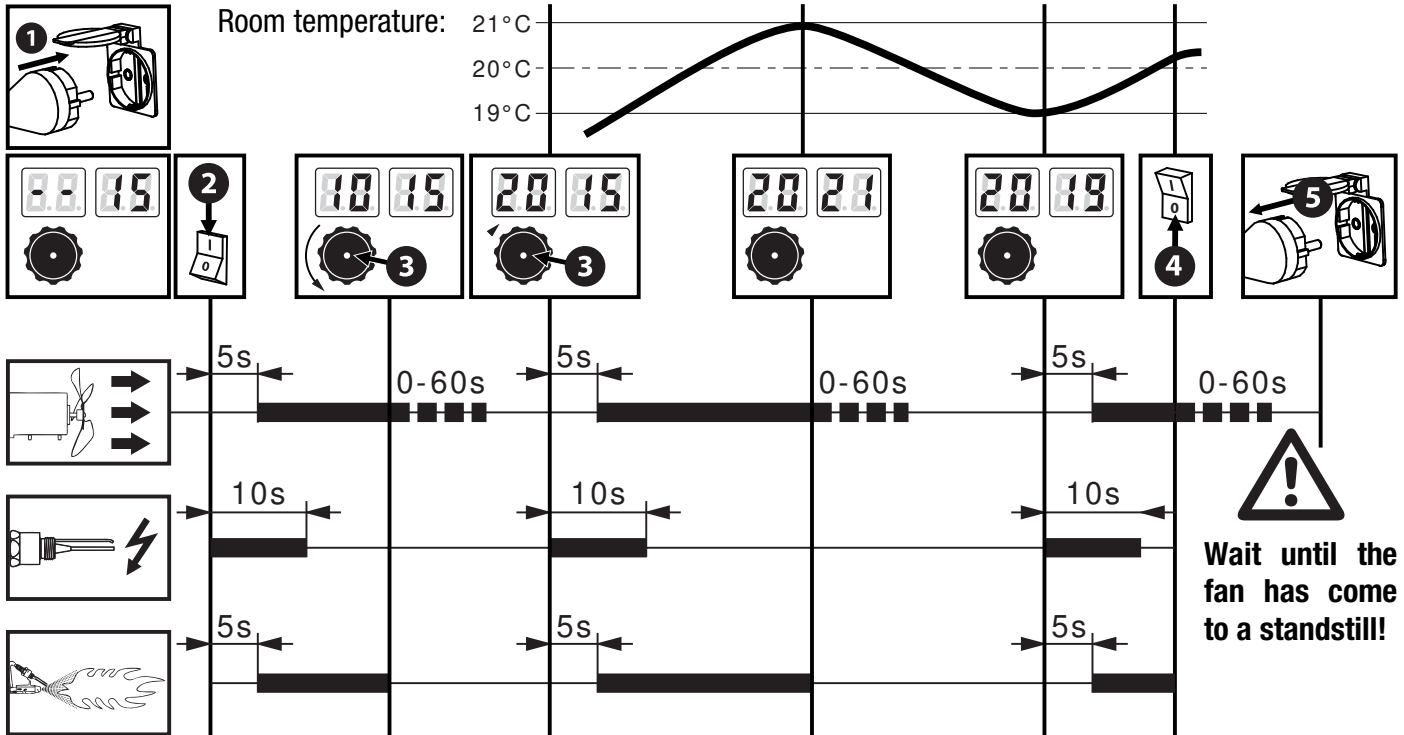


## Functions and operation

The devices may only be operated by accordingly instructed persons.

Observe the personnel qualification.

### Switching on the oil heater



### Switching off the oil heater

- Switch off the device by setting the selector switch to position 0.
- If you use a thermostat, switch off the device using the settings of the controller (e. g. by setting a lower temperature at the thermostat).

The flame goes out and the fan continues to run for approx. 90 seconds in order to cool down the burner.



**Damage to the device due to overheating! Never switch off the device by pulling the mains plug. This may lead to overheating!**

**Switch off the device properly.**

**Only pull the mains plug once the fan motor has stopped completely.**

### Restart after troubleshooting

During initial start-up and after the fuel oil circuit has been drained completely, the fuel oil supply to the nozzle may be insufficient. In this case, the flame monitoring system will respond and the device will be blocked.

- Wait for approx. 1 minute.
- Switch the device on.
- If the device still does not start:
- Make sure that there is fuel left in the tank.
- See chapters General safety and Troubleshooting.

### Safety devices

The oil heater is equipped with an electronic flame and maximum temperature monitoring system working with a photo cell and a safety thermostat.

## Transport

- Switch off the device as described in the chapter Functions and operation:
- Wait until the device has cooled down completely.
- Before transporting or moving the device, make sure that the tank cap is tightly closed.



### **Risk of environmental pollution!**

**Fuel oil may leak during transport or handling of the device.**

**The filling plug of the tank cap does not ensure tightness in order to allow air to be introduced and to be able to drain the tank during operation.**

**Transport or move the device only when the tank cap is tightly closed.**

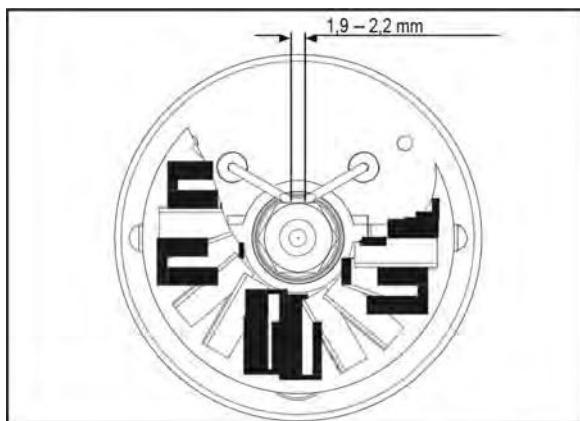
## Care and maintenance

For a smooth operation of the device, the combustion chamber, the burner and the fan must be cleaned regularly.

- Switch off the device as described in the chapter Functions and operation:
- Wait until the device has cooled down completely.

### Cleaning after every 50 operating hours

- Remove the fuel oil filter. Take out the filter insert and clean it with clean fuel oil.
- Dismantle the upper part of the housing and clean the inner section and the fan blades with a cleaning fleece and, in case of heavy soiling, with a brass brush.
- Check the condition off all cables and of the high-voltage plugs.
- Dismantle the burner and clean its components with a brass brush.
- Clean the electrodes. Check the distance of the electrodes and adjust if necessary (see figure).



- Have the combustion chamber cleaned by the customer service.
- Assemble the components in reverse order.

## Cleaning the oil heater

- Wipe the outside of the device with a damp cloth. Painted and plastic surfaces must not be scrubbed. Do not use any cleaners containing solvents.

## Disposal

The fuel must be drained from the tank of the oil heater and collected.

## Oil heater



In the European Union, electronic equipment must not be treated as domestic waste, but must be disposed of professionally in accordance with Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003 on waste electrical and electronic equipment (WEEE). At the end of its life, please dispose of this instrument in a manner appropriate to the relevant legal requirements.

## Fuels

Fuel oil or diesel must be disposed of in accordance with the local regulations.

## Packaging

The packaging of the oil heater consists of cardboard/paper and plastics. It must be disposed of into the appropriate containers or at a recycling centre in accordance with the local regulations.

## Service and repair

In case of technical problems please try to rectify the fault with the help of the instructions in the chapter Troubleshooting before contacting our customer service.

For further questions regarding the function and operation of the oil heater as well as for more information in the case of damage or else for warranty issues we are of course always happy to be of service.

Please contact:

Trotec GmbH & Co KG  
 Grebbener Straße 7  
 D-52525 Heinsberg  
 Tel.: 49 (0) 2452 / 962 - 400  
 Fax: 49 (0) 2452 / 962 - 200  
 E-mail: info@trotec.de www.trotec.de

## Troubleshooting



**Risk of death due to improper repair! Never try to make any modifications or repairs on the device. Unauthorised modifications can lead to serious injuries or death. Have a certified specialist workshop perform the repair work.**

## Faults and troubleshooting

Problem	Cause	Troubleshooting
Fan does not start and flame does not ignite	Controller set incorrectly	Check if the controller is set correctly (e. g. the temperature set at the thermostat must be higher than the room temperature).
	Controller faulty	Have the controller exchanged by the customer service.
Fan does not start or switches off during start-up or operation	No power supply	Check the characteristics of the electrical system (230 V - 1 ~ - 50 Hz).
		Check the functionality and position of the selector switch.
		Check the fuse for soundness.
Fan switches off during start-up or operation	Flame present prior to ignition of the transformer	Contract the customer service to have the device cleaned and fuel oil residues removed from the combustion chamber.
	Photo cell faulty	Have the photo cell exchanged by the customer service.
	Motor winding interrupted or blown	Have the motor exchanged by the customer service.
	Motor bearing blocked	Have the motor bearing exchanged by the customer service.
	Motor capacitor blown	Have the motor capacitor exchanged by the customer service.
Fan switches off during start-up or operation	No ignition	Check the connections of the ignition cables at the electrodes and the transformer.
		Check the position and the distance of the electrodes.
		Check whether the electrodes are clean.
		Have the transformer exchanged by the customer service.
	Flame monitoring system faulty	Have the flame monitoring system exchanged by the customer service.
Photo cell faulty	Have the photo cell cleaned or exchanged by the customer service.	

Problem	Cause	Troubleshooting
Fan switches off during start-up or operation	Burner is supplied with no or insufficient fuel oil	Contract the customer service to have the coupling between the pump and the motor checked for soundness.
		Contract the customer service to have the fuel oil circuit checked for intruded air and to have the lines and filter seal checked for tightness.
		Contract the customer service to have the nozzle cleaned or exchanged.
	Magnet valve faulty	Contract the customer service to have the electrical connections checked. Contract the customer service to have the safety thermostat LI checked. Contract the customer service to have the magnet valve cleaned or exchanged.
	Internal error of the electronic control unit	Contract the customer service to have the control unit reset; try at least twice. If the problem persists, have the control unit changed.
Fan starts and flame burns with smoke formation	Insufficient combustion air supply	Remove all obstacles and obstructions from the inlet and/or outlet openings. Have the supporting disc of the burner cleaned by the customer service.
		Used fuel oil contaminated or contains water
	Air inside the fuel oil circuit	Have the lines and the fuel oil filter checked for tightness by the customer service.
	Insufficient fuel oil quantity at the burner	Contract the customer service to: have the pump pressure checked. have the nozzle cleaned or exchanged.
		Excessive fuel oil at the burner
Device does not switch off	Sealing of the magnet valve faulty	Have the magnet valve exchanged by the customer service.

**Declaration of conformity  
(Translation of the Original)****EC Declaration of Conformity**  
in accordance with EC Machinery Directive 2006/42/EC**TROTEC® GmbH & Co. KG**Grebbener Straße 7  
D-52525 Heinsberg

herewith declares that due to their design and construction, and in the version introduced by us, the following oil heater fan conforms with the relevant fundamental requirements of the listed EC directives.

**Important note:**

In case of improper use, installation, maintenance etc. or unauthorized changes of the factory-supplied device version, this declaration loses its legal validity.

<b>Device version:</b>	<b>Diesel oil / kerosene heater fan</b>	
<b>Series:</b>	<b>IDE 20 / IDE 30 / IDE 50 / IDE 60 / IDE 80</b>	
<b>Applicable regulations:</b>	2006/42/EC 2006/95/EC 2004/108/EC 2011/65/EC	Machinery Directive Low Voltage Directive EMC Directive RoHS
<b>Applied standards:</b>	EN 13842:2004 EN 60335-1:2012 EN 60335-2-102:2006+A1 EN 62233:2008 EN 55014-1:2006+A1+A2 EN 55014-2:1997+A1+A2	EN 61000-3-2:2006+A1+A2 EN 61000-3-3:2013 EN 62321:2009

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