Operating and installation instructions

REMKO DZH series

Oil heating unit

DZH 20-2, DZH 30-2, DZH 50-2, DZH 90-2

0301-2021-10 Edition 1, en_GB

Read the instructions prior to performing any task!

Read these operating instructions carefully before commissioning / using this device!

These instructions are an integral part of the system and must always be kept near or on the device.

CE

Subject to modifications; No liability accepted for errors or misprints!

Translation of the original

Table of contents

1 Safety and usage instructions

1.1 General safety notes

Carefully read the operating manual before commissioning the units for the first time. It contains useful tips and notes such as hazard warnings to prevent personal injury and material damage. Failure to follow the directions in this manual not only presents a danger to people, the environment and the system itself, but will void any claims for liability.

Keep this operating manual and the refrigerant data sheet near to the units.

1.2 Identification of notes

This section provides an overview of all important safety aspects for proper protection of people and safe and fault-free operation.The instructions and safety notes contained within this manual must be observed in order to prevent accidents, personal injury and material damage.

Notes attached directly to the units must be observed in their entirety and be kept in a fully legible condition.

Safety notes in this manual are indicated by symbols. Safety notes are introduced with signal words which help to highlight the magnitude of the danger in question.

DANGER!

Contact with live parts poses an immediate danger of death due to electric shock. Damage to the insulation or individual components may pose a danger of death.

DANGER!

This combination of symbol and signal word warns of a situation in which there is immediate danger, which if not avoided may be fatal or cause serious injury.

WARNING!

This combination of symbol and signal word warns of a potentially hazardous situation, which if not avoided may be fatal or cause serious injury.

CAUTION!

This combination of symbol and signal word warns of a potentially hazardous situation, which if not avoided may cause injury or material and environmental damage.

NOTICE!

This combination of symbol and signal word warns of a potentially hazardous situation, which if not avoided may cause material and environmental damage.

This symbol highlights useful tips and recommendations as well as information for efficient and fault-free operation.

1.3 Personnel qualifications

Personnel responsible for commissioning, operation, maintenance, inspection and installation must be able to demonstrate that they hold a qualification which proves their ability to undertake the work.

1.4 Dangers of failure to observe the safety notes

Failure to observe the safety notes may pose a risk to people, the environment and the units. Failure to observe the safety notes may void any claims for damages.

In particular, failure to observe the safety notes may pose the following risks:

- The failure of important unit functions.
- The failure of prescribed methods of maintenance and repair.
- Danger to people on account of electrical and mechanical effects.

1.5 Safety-conscious working

The safety notes contained in this manual, the existing national regulations concerning accident prevention as well as any internal company working, operating and safety regulations must be observed.

1.6 Safety instructions for the operator

The operational safety of the units and components is only assured providing they are used as intended and in a fully assembled state.

- The units and components may only be set up, installed and maintained by qualified personnel.
- Protective covers (grills) over moving parts must not be removed from units that are in operation.
- Do not operate units or components with obvious defects or signs of damage.
- Contact with equipment parts or components can lead to burns or injury.
- The units and components must not be exposed to any mechanical load, extreme levels of humidity or extreme temperatures.
- All housing parts and device openings, e.g. air inlets and outlets, must be free from foreign objects.
- The units must be inspected by a service technician to ensure that they are safe to use and fully functional at least once annually. Visual inspections and cleaning may be performed by the operator when the units are disconnected from the mains.

1.7 Safety notes for installation, maintenance and inspection

- Appropriate hazard prevention measures must be taken to prevent risks to people when performing installation, repair, maintenance or cleaning work on the units.
- The setup, connection and operation of the units and its components must be undertaken in accordance with the usage and operating conditions stipulated in this manual and comply with all applicable regional regulations.
- Regional regulations and laws as well as the Water Ecology Act must be observed.
- The units must be installed and operated in such a way that personnel are not endangered by exhaust gases, hot air and radiant heat and no fires may occur
- The units must then only be operated in areas where the units can be supplied with an adequate amount of air for the combustion
- If the units are being operated without exhaust gas routing then they may only be operated in well ventilated areas. Under such circumstances it is forbidden for personnel to remain in these areas for extended periods. Appropriate prohibition signs should be put up at the entrances
- A safety zone of 1.5 m should be maintained around the units - incl. non-combustible items
- The power supply should be adapted to the requirements of the units.
- Mobile units must be set up securely on suitable non-combustible surfaces.
- The equipment and components should not be operated in areas where there is a heightened risk of damage. Observe the minimum clearances.
- The units and components must be kept at an adequate distance from flammable, explosive, combustible, abrasive and dirty areas.
- The units must not be exposed to direct jets of water, e.g. pressure washers etc.
- Portable fuel containers must only be set up and used in observance of the technical rules for combustible liquids "TRbF 20".
- Safety devices may not be modified or bypassed.

1.8 Unauthorised modification and changes

Modifications or changes to units and components are not permitted and may cause malfunctions. Safety devices may not be modified or bypassed. Original replacement parts and accessories authorised by the manufactured ensure safety. The use of other parts may invalidate liability for resulting consequences.

1.9 Intended use

The units are designed exclusively for heating and ventilation purposes in industrial or commercial use (no living space heating in private use) on the basis of their structural design and equipment. The units must only be operated by appropriately instructed personnel.

Any different or additional use is a non-intended use. The manufacturer/supplier assumes no liability for damages arising from a non-intended use. The user bears the sole risk in such cases. Intended use also includes working in accordance with the operating and installation instructions and complying with the maintenance requirements.

The threshold values specified in the technical data must not be exceeded.

1.10 Warranty

For warranty claims to be considered, it is essential that the ordering party or its representative complete and return the "certificate of warranty" to REMKO GmbH & Co. KG at the time when the units are purchased and commissioned.

The warranty conditions are detailed in the "General business and delivery conditions". Furthermore, only the parties to a contract can conclude special agreements beyond these conditions. In this case, contact your contractual partner in the first instance.

1.11 Transport and packaging

The devices are supplied in a sturdy shipping container. Please check the equipment immediately upon delivery and note any damage or missing parts on the delivery and inform the shipper and your contractual partner. For later complaints can not be guaranteed.

⚠ WARNING!

Plastic films and bags etc. are dangerous toys for children!

Why:

- Leave packaging material are not around.

- Packaging material may not be accessible to children!

1.12 Environmental protection and recycling

Disposal of packaging

All products are packed for transport in environmentally friendly materials. Make a valuable contribution to reducing waste and sustaining raw materials. Only dispose of packaging at approved collection points.

Disposal of equipment and components

Only recyclable materials are used in the manufacture of the devices and components. Help protect the environment by ensuring that the devices or components (for example batteries) are not disposed in household waste, but only in accordance with local regulations and in an environmentally safe manner, e.g. using certified firms and recycling specialists or at collection points.

2 Technical data

Unit data

Unit type		DZH 20-2	DZH 30-2	DZH 50-2	DZH 90-2
Nominal thermal load	kW	20	36	46	95
Air volume	m^3/h	350	605	1400	2500
Fuel		Heating oil EL per DIN 51603 or diesel fuel			
Max. fuel consumption	l/h	2.01	3.62	4.62	9.52
Danfoss oil nozzle [1)]	USG	0.40/80°S	0.60/80°S	0.85/80°S	2.0/80°W
Pump pressure, approx. [1)]	bar	11-12	13-14	13-14	10-11
Tank capacity	l	17	40	62	105
Power supply	V/Ph/Hz	230/1~/50			
Max. rated current	A	1.0	1.3	1.8	2.5
Max. power consumption	kW	200	290	430	520
Electrical protection (provided by the customer)	A	10			
Sound pressure level, LpA 1m [2)]	dB(A)	74	77	78	79
Total length	mm	800	1050	1090	1400
Total width	mm	300	500	500	655
Total height	mm	520	615	740	890
Weight	kg	21	37	43	84
EDP no.:		116202	116302	116502	116902

[1)] The specified nozzle sizes and pump pressures are based on test bench results.

The oil flow rate was derived from this.

Based on the product-specific nozzle and pressure tolerances as well as the oil temperature, the specifications should only be considered guidelines.

[2)] Noise measurement in acc. with DIN 45635 - 01 KL 3.

3 Unit description

The units are mobile air heaters (WLE), without an exhaust gas connection.

The units can be directly fired with EL heating oil and are designed exclusively for commercial use.

The units are equipped with fuel tanks mounted beneath the unit, fuel filters, low-maintenance axial fans, high-pressure atomisation burner with optical flame monitoring, a room thermostat socket and power cable with protective contact plug.

The units conform to the fundamental health and safety requirements of the appropriate EU regulations, and are simple to operate.

Use

The units may be used among other things for the following:

- Spot heating of outdoor workplaces
- Spot heating workplaces in open, non-flammable manufacturing facilities and halls
- Temporarily heating enclosed spaces with a sufficient fresh air supply
- De-icing machines, vehicles and non-combustible warehoused goods
- Maintaining the temperature of frost-sensitive parts

⚠ CAUTION!

The units must only be installed in well ventilated spaces and not in living areas or similar recreational areas.

Operating sequence

The supply air fan switches on once the units are switched on or if heat is required (fully automatic unit operation with room thermostat). The solenoid valve opens the fuel supply to the oil nozzle following burner pre-ventilation.

The fuel atomised under high pressure is enriched with a quantity of air (oxygen) appropriate to the heating capacity and ignited by an electrical spark. As soon as a flawless flame has been generated, the automatic burner begins optical flame monitoring. Warm air is blown out after a short period of time.

The automatic burner executes all unit functions fully automatically and ensures reliable monitoring.

In the event of malfunctions or an unstable or extinguished flame, or even in the event of overtemperatures, the automatic burner switches the units off. The automatic burner's fault lamp will light up in this case. The units can only be restarted after manually resetting the automatic burner.

After switching off the units via the operating switch or the room thermostat, the supply air fan runs to cool the combustion chamber for a certain time and then switches off automatically.

Depending on the heat requirement, the operating sequence described is repeated fully automatically when in thermostat mode.

4 Installation instructions

The safety regulations of the accident prevention and insurance associations, the respective regional building regulations and the combustion appliances regulations apply to the operation of the units.

For example, for Germany:

- Combustion plant order (FeuVo) for the individual state
- Workplace directives ASR 5
- Workplace regulations §§ 5 and 14

Outdoor installation

- The operation of the units must not present a hazard or unreasonable loading
- The unit operator must ensure that it is not possible for unauthorised persons to be able to manipulate either the unit or the power supply
- To prevent damage due to inclement weather, units installed outdoors must be protected accordingly

Installation in enclosed, well-ventilated rooms

- The units are designed without an exhaust gas connection according to type, and can only be used in enclosed rooms on a conditional basis
- In order to exclude impermissible contamination of the room air with hazardous substances, reliable extraction of the combustion gases must always be guaranteed
- The fresh air supply required for trouble-free combustion must also be guaranteed. It is practical to have the fresh air supply provided by windows and doors or through appropriately dimensioned openings in the outside wall
- The units may only be operated for room heating with a room thermostat (accessory)

The units may only be operated in rooms if:

- a sufficient quantity of air is supplied to the unit for the combustion
- these are well ventilated and aerated
- the proportion of substances harmful to health in the breathing air is at a harmless level

! NOTICE!

Overpressure and underpressure in the installation area should be avoided as this will inevitably lead to combustion-related malfunctions.

5 Electrical wiring diagram

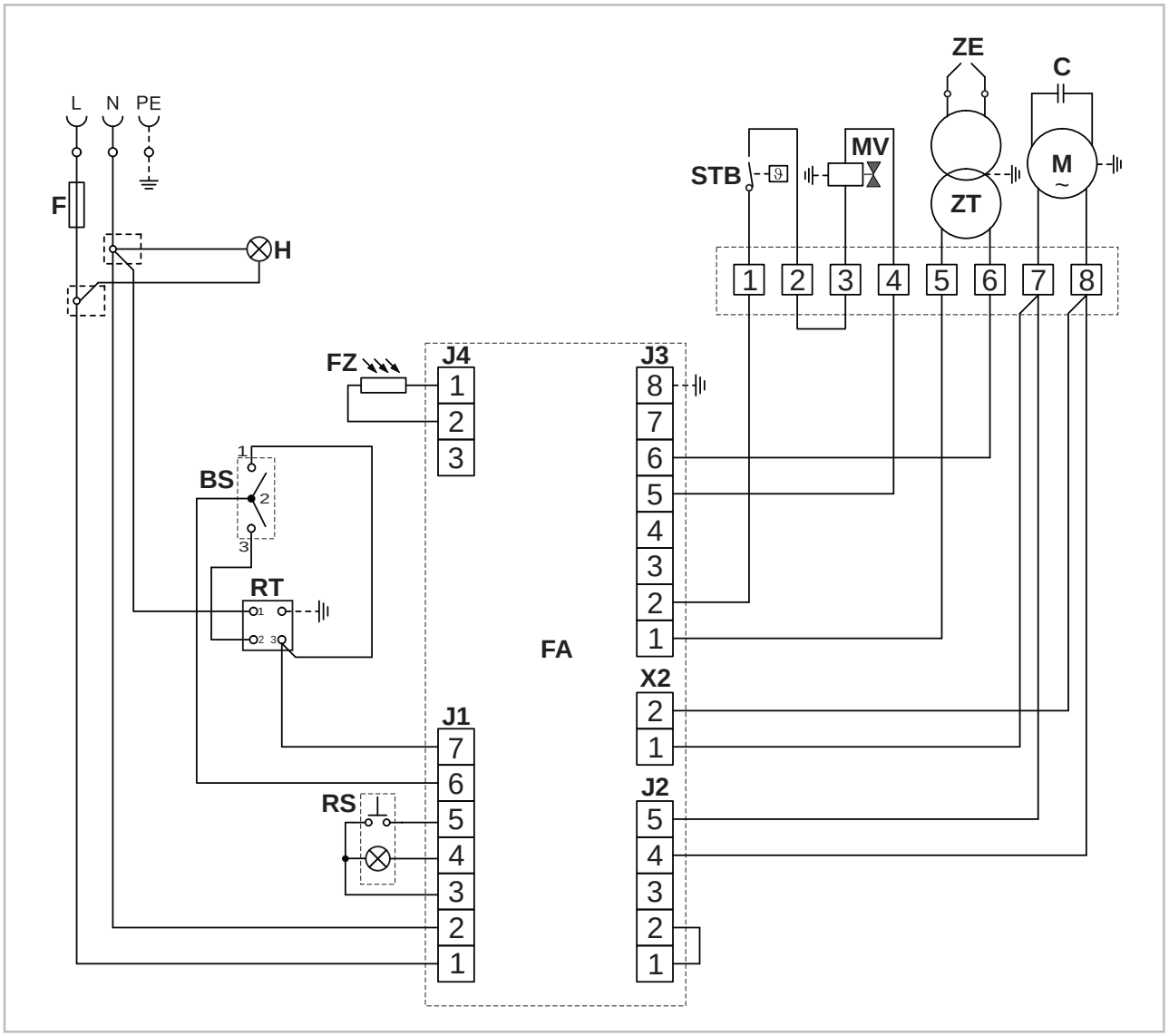


Fig. 1: Electrical wiring diagram

BS:	Operating switch	MV:	Solenoid valve
C:	Capacitor	RS:	Relay socket
F:	Fuse	RT:	Thermostat receptacle
FA:	Terminal block	STB:	Safety thermal cut-out
FZ:	Photocell	X2:	Terminal block
H:	Operating lamp	ZE:	Ignition electrode
J1-J4:	Terminal blocks	ZT:	Ignition transformer
M:	Motor		

We reserve the right to modify the dimensions and design as part of the ongoing technical development process.

6 Commissioning the unit

The units should be checked for visible defects on the operating and safety devices as well as proper installation and correct electrical connections before commissioning.

A person, who has been adequately trained in the handling of the units, must be tasked with operation and monitoring of the units.

NOTICE!

In the event of defects that endanger the operational safety of the units, operation of the units must be discontinued immediately and the supervisor informed!

Connecting the units to the electrical power supply

1. Move the operating switch to the "0" (off) position.
2. Plug the unit's power plug into a properly installed and fused mains socket (230V/ 50Hz).

The electrical connection for the units must be made at a separate feedpoint with a residual current device in accordance with VDE 0100, Section 55.

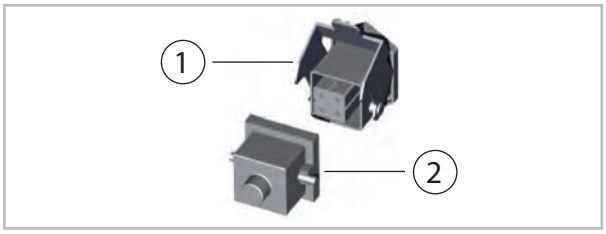
CAUTION!

All cable extensions must only be used in fully un-reeled or reeled off condition.

Heating without room thermostat

The units are operating in permanent operating mode.

1. Connect the strapping plug supplied [2] with the thermostat receptacle [1] on the unit.



2. Move the operating switch to the "I" (on) position.

Safety distances

- In order to guarantee safe operation of the units, a 1 m safety distance must be maintained around the unit
- Observe a minimum clearance of 3 m from the unit outlet
- Flooring and ceilings must be fire retardant
- Intake and outlet diameters must not be narrowed or blocked with foreign objects

WARNING!

The units may not be installed or operated in potentially flammable or explosive environments.

If the units overheat, a safety shutdown takes place via the automatic burner.

Paraffin formation with low outside temperatures

Even at low temperatures, an adequate supply of flowing heating oil must be ensured.

! NOTICE!

Paraffin formation can start at temperatures below 5°C. To avoid this, appropriate precautionary measures must be implemented.

A tank heater is available as an optional REMKO accessory.

- The fuel tank must be filled with clean heating oil or diesel fuel
  Do not use biodiesel!
- Clean and suitable tanks may be used for filling

The fuel filter must be checked for dirt or paraffin formation before the unit is started and after every filling of the tank.

The fuel filter is directly opposite the tank filler necks.

The fuel tank may only be filled with the tank filter inserted into the filler necks.

! NOTICE!

Only fill clean fuel via a funnel with a fine filter.

Notes for unit safety shutdown

The fuel supply of the units is in the 1-pipe system as standard. In this regard, the fuel supply to the nozzle can be interrupted by air bubbles during initial commissioning or after the fuel tank has been completely emptied.

The automatic burner performs a fault shutdown in this case.

The fault shutdown is displayed by the red indicator light of the automatic burner on the control panel.

The automatic burner is unlocked by pressing the malfunction button.

The automatic burner can be unlocked after a waiting time of approx. 60 sec.

If the unit has still not started after several attempts, please read the section “Troubleshooting”.

The fill quantity of the fuel tank must be checked.

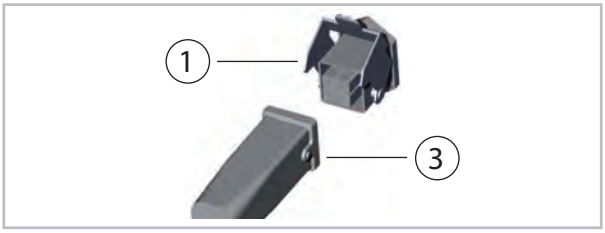
! NOTICE!

Always ensure that an adequate fill level is maintained in the fuel tank. Approx. 5-10 litres of fuel is required.

Heating with room thermostat (accessory)

The units operate fully automatically and in accordance with the room temperature.

1. Pull out the strapping plug.
2. Connect the room thermostat [4] plug [3] with the thermostat receptacle [1] on the unit.



3. Place the room thermostat [4] at a suitable location in the room. The thermostat probe must not be located directly in the warm air flow and must not be placed directly on the cold floor.
4. Set the desired temperature on the room thermostat [4].

5. Move the operating switch to the "II" (Auto) position.

If heat is required, the units now switch on automatically, or when room temperature is reached.

7 Shutdown

1. Move the operating switch to the "0" (off) position.

2. With longer periods of inactivity, disconnect the units from the mains power supply.

The supply air fan runs to cool the combustion chamber and switches off independently. The fan can switch on and run several times before the final stop!

NOTICE!

Never interrupt the mains connection prior to the completion of the follow-up cooling phase. There is no warranty claim for damage to the units from overheating.

In the case of longer periods of inactivity or if the units are in storage, always clean the fuel tank and fill it with heating oil or diesel.

8 Troubleshooting and customer service

The unit and components are manufactured using state-of-the-art production methods and tested several times to verify that they function correctly. However, if malfunctions do occur, please check the functions as detailed in the list below. For systems with an indoor unit and outdoor unit, refer to the chapter "Trouble-shooting and customer service" in both operating manuals. Please inform your dealer if the unit is still not working correctly after all function checks have been performed!

Malfunction table

Malfunction	Possible causes	Remedial measures
The supply air fan does not start.	The unit has no power supply.	Check the power plug, mains socket and mains voltage.
	No plug in the thermostat socket.	Connect the thermostat/strapping plug with the thermostat socket.
	The room thermostat is set too low.	Set the room thermostat higher than the current room temperature.
	Malfunction of the automatic burners.	Replace the automatic burner.
	The fan motor is overloaded. (The fan runs irregularly or is blocked)	Allow fan motor to cool. Check the smooth running of the fuel pump. Check the electrical and mechanical functioning of the motor.
	The fuel pump is blocked.	Check fuel pump and replace if neces-sary.
	Operating switch malfunction.	Check operating switch and replace if necessary.
The supply air fan runs but the burner does not ignite.	Air in fuel system during start-up.	Press the fault key of the automatic burner. Repeat if necessary (max. 3 times).
	The fault lamp in the automatic burner lights up.	Reset the automatic burner by pressing the malfunction button.
	Malfunction of the automatic burners.	Replace the automatic burner.
	The fuel tank is empty.	Fill the fuel tank with clean EL heating oil or diesel.
	The fuel filter is contaminated.	Replace the fuel filter.
	The oil nozzle is blocked or of the wrong size.	Replace the nozzle (ensure it is the cor-rect type and size!).
	The electrodes are incorrectly set, the insulation has cracked.	Readjust the ignition electrodes and replace if necessary.
	The air slide of the burner head has moved or is contaminated.	Readjust using CO_2 indicator and soot pump. (CO_2 approx. 11 - 12%, soot level in acc. with Bacharach 0 – 1).

Malfunction table (continued)

Malfunction	Possible causes	Remedial measures
The supply air fan does not start. (continued)	The solenoid valve does not open.	Check the solenoid valve and replace if necessary.
	The pump pressure is improperly set.	Adjust the pump pressure using a suitable pressure gauge.
	The pump coupling is faulty.	Replace the pump coupling.
	Leak in the intake line or fuel filter.	Check and seal or replace faulty parts.
The unit malfunctions without generating a flame.	Shutdown by safety thermal cut-out (STB).	Check protective intake grille and clean if necessary and unlock the automatic burners again.
	Air bubbles in fuel system.	Start the unit to discharge the air through the nozzle. Repeat this procedure up to 3 times if necessary.
	The photocell is contaminated or faulty.	Clean photocell and replace if necessary.
	Paraffin precipitation in the heating oil.	Clean the entire burner system. See also chapter "Commissioning".
The unit switches off during operation. (The fault lamp in the automatic burner lights up)	The room thermostat is set too low.	Set the room thermostat higher than the current room temperature.
	The fault lamp in the automatic burner lights up.	Reset the automatic burner by pressing the malfunction button.
	Malfunction of the automatic burners.	Replace the automatic burner.
	The fan motor is overloaded. (The fan runs irregularly or is blocked)	Allow fan motor to cool. Check the smooth running of the fuel pump. Check the electrical and mechanical functioning of the motor.
	The fuel pump is blocked.	Check fuel pump and replace if necessary.
	The fuel tank is empty.	Fill the fuel tank with clean EL heating oil or diesel.
	The fuel filter is contaminated.	Replace the fuel filter.
	The oil nozzle is blocked or of the wrong size.	Replace the nozzle (ensure it is the correct type and size!).
	The air slide of the burner head has moved or is contaminated.	Readjust using CO_2 indicator and soot pump. (CO_2 approx. 11 - 12%, soot level in acc. with Bacharach 0 – 1).
	The pump pressure is improperly set.	Adjust the pump pressure using a suitable pressure gauge.
	The pump coupling is faulty.	Replace the pump coupling.

Malfunction table (continued)

Malfunction	Possible causes	Remedial measures
The unit switches off during operation. (The fault lamp in the automatic burner lights up) (continued)	Leak in the intake line or fuel filter.	Check and seal or replace faulty parts.
	The protection grid on the supply air fan is contaminated.	Clean the protection grid.
	Shutdown by safety thermal cut-out (STB).	Check protective intake grille and clean if necessary and unlock the automatic burners again.
	Air bubbles in fuel system.	Start the unit to discharge the air through the nozzle. Repeat this procedure up to 3 times if necessary.
	Insufficient ventilation.	Open door or window.
	The photocell is contaminated or faulty.	Clean photocell and replace if necessary.
	Paraffin precipitation in the heating oil.	Clean the entire burner system. See also chapter "Commissioning".
Smoke formation during operation.	The fan motor is overloaded. (The fan runs irregularly or is blocked)	Allow fan motor to cool. Check the smooth running of the fuel pump. Check the electrical and mechanical functioning of the motor.
	The fuel filter is contaminated.	Replace the fuel filter.
	The oil nozzle is blocked or of the wrong size.	Replace the nozzle (ensure it is the correct type and size!).
	The air slide of the burner head has moved or is contaminated.	Readjust using CO_2 indicator and soot pump. (CO_2 approx. 11 - 12%, soot level in acc. with Bacharach 0 – 1).
	The pump pressure is improperly set.	Adjust the pump pressure using a suitable pressure gauge.
	Leak in the intake line or fuel filter.	Check and seal or replace faulty parts.
	The protection grid on the supply air fan is contaminated.	Clean the protection grid.
	Air bubbles in fuel system.	Start the unit to discharge the air through the nozzle. Repeat this procedure up to 3 times if necessary.
	Insufficient ventilation.	Open door or window.
The unit does not switch off in operating switch position "0".	The solenoid valve does not close.	Disconnect the fuel line at the main filter (the flame extinguishes).
	Operating switch malfunction.	Check operating switch and replace if necessary.

9 Care and maintenance

9.1 General

Regular care and observation of some basic points will ensure trouble-free operation and a long service life.

The complete units, including combustion chamber and burner, must be cleared of soot deposits, dust and dirt after every heating period or according to the operating conditions.

DANGER!

Before undertaking any work on the units, the mains plug must be removed from the mains socket.

CAUTION!

There is an acute risk of injury from automatic fan switch-on, when the unit enclosure is opened!

NOTICE!

Adjustment and maintenance work may only be carried out by authorised qualified technicians.

- Keep the units free of dust and other debris
- Only clean the units with a dry or moistened cloth
- Never subject to direct jets of water. **e.g. pressure washers etc.**
- Never use abrasive or solvent-based cleaners
- Even with heavy contamination, use only suitable cleaners
- Clean the fuel tank regularly and then rinse with clean fuel or another suitable agent. Do not use water!
- Always keep the burner pipe, baffle plate, photocell etc. clean
- Check the wear parts such as oil nozzle, seals etc. and replace if necessary. We recommend replacing the oil nozzle in any case before the start of the heating season!
- Clean the tank filter in the filler neck of the fuel tank regularly
- Depending on its condition, the fuel filter must be replaced before each heating season. Note the direction of flow!
- Only use clean EL heating oil or diesel fuel. Watch for paraffin formation!
- Always entrust authorised specialist personnel with replacing the oil nozzle and cleaning or replacing the gauze filter in the fuel pump (only with DZH 90-2)
- Check that all safety devices are operating correctly at regular intervals
- In the event of diminishing heat capacity, smoke formation and/or poor ignition, carry out a proper unit inspection with burner setting
- Observe the regular maintenance and care intervals

NOTICE!

An electrical safety check must be carried out in accordance with VDE 0701 after any work on the unit.

Setting values of the ignition electrodes and air slide

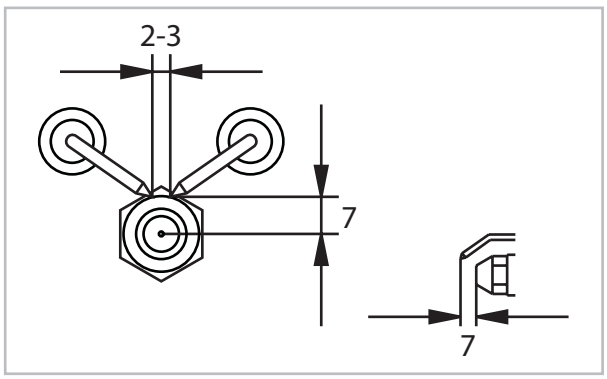


Fig. 2: Setting the ignition electrodes (information approx. values in mm)

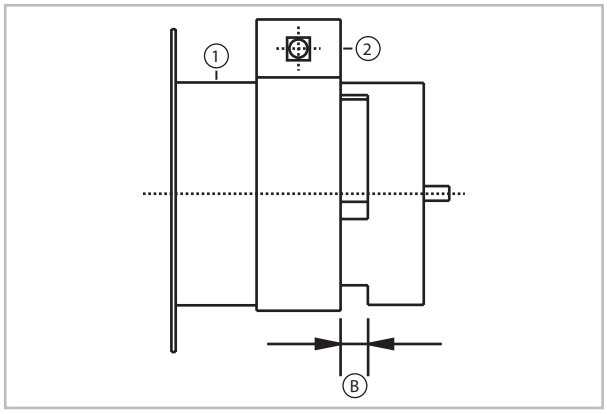


Fig. 3: Setting the air slide

1: Burner pipe
2: Air slide

Dimension “B”

Unit	Dimension “B”, reference values in mm
DZH 20-2	20
DZH 30-2	12
DZH 50-2	20
DZH 90-2	13

NOTICE!

The exhaust gas must be checked and adjusted by authorised specialist personnel. The flame must burn out within the combustion chamber. No flames may escape outside of the combustion chamber.

NOTICE!

Adjustment and maintenance work may only be carried out by authorised qualified technicians.

9.2 Maintenance protocol

Unit type: ----------	**Unit number:** ----------	

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20
Unit cleaned - outside -																				
Unit cleaned - inside -																				
Fan blade cleaned																				
Combustion chamber cleaned																				
Burner head cleaned																				
Ignition electrodes adjusted																				
Oil nozzle replaced																				
Burner set and calibrated																				
Safety equipment checked																				
Safety devices checked																				
Unit checked for damage																				
Electrical safety check																				
Test run																				

Comments: .....

.....

01. Date: .... Signature	02. Date: .... Signature	03. Date: .... Signature	04. Date: .... Signature	05. Date: .... Signature
06. Date: .... Signature	07. Date: .... Signature	08. Date: .... Signature	09. 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

*) Have the forced-air burner maintained and adjusted only by authorised specialist personnel and in accordance with the legal provisions (1st BImSchV.). A corresponding measurement log should be generated.

Unit to be maintained only by authorised specialist personnel in accordance with the statutory regulations.

10 View of the unit and spare parts

10.1 View of the unit DZH 20-2

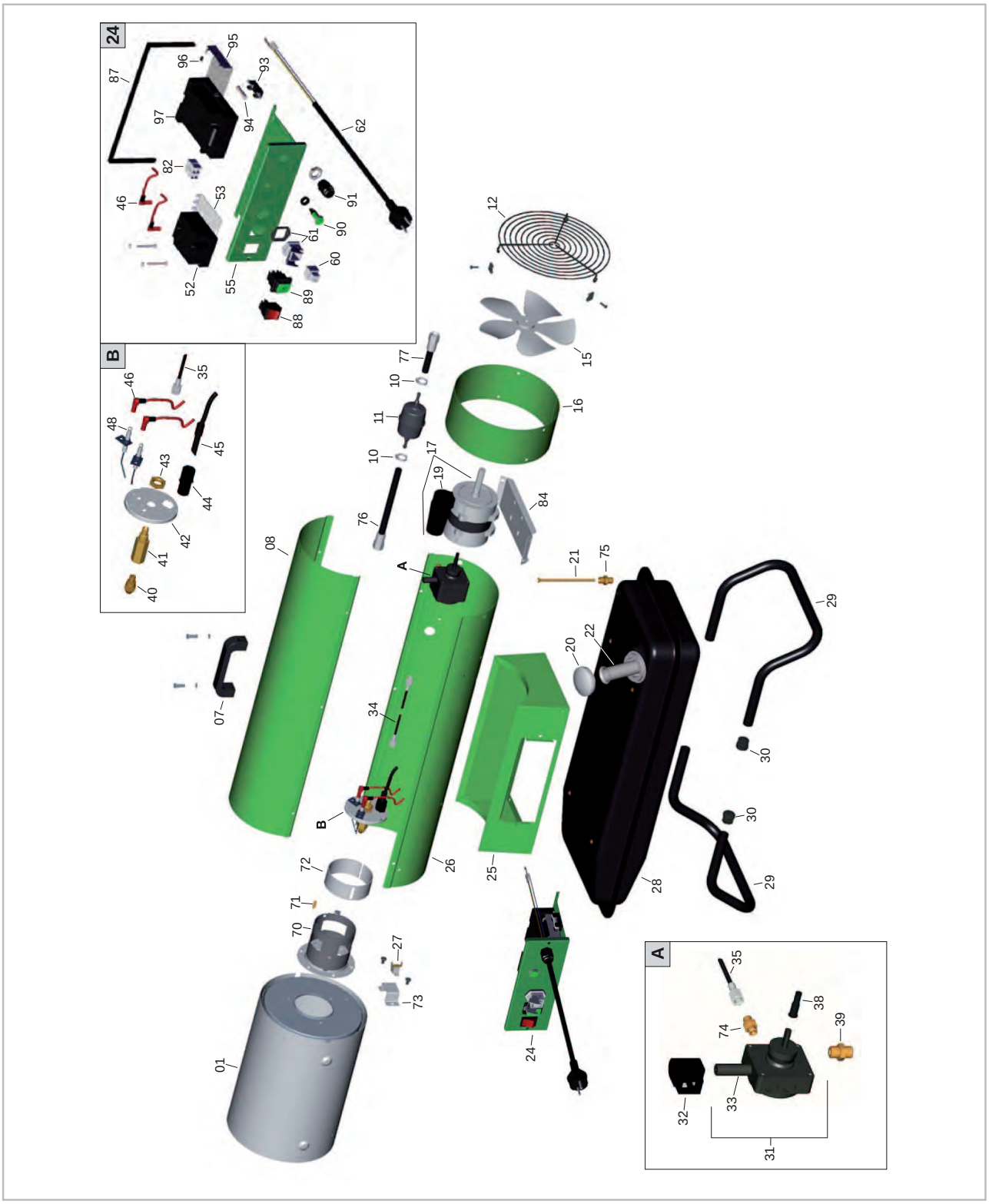


Fig. 4: Exploded view

We reserve the right to modify the dimensions and design as part of the ongoing technical development process.

10.2 Spare parts list DZH 20-2

No.	Designation	DZH 20-2
		EDP no.
1	Combustion chamber, compl.	1111660
7	Transport handle	1103903
8	Inspection cover	1111661
10	Hose clip	1103762
11	Fuel filter	1102146
12	Protective intake grille	1111662
15	Fan blade	1111663
16	Fan housing	1111664
17	Fan motor	1111665
19	Capacitor	1107114
20	Container seal	1102148
21	Tank filter	1103776
22	Suction pipe	1111686
24	Electrical assembly	1103849
25	Carrier housing	1111668
26	Housing lower section	1111669
27	Thermal cut-out (STB)	1111683
28	Fuel tank	1111670
29	Stand	1107121
30	Protective cap	1107122
31	Fuel pump, compl.	1107123
32	Solenoid valve coil	1103766
33	Solenoid valve core	1111671
34	Oil pressure line	1111673
38	Pump coupling	1107129
39	Suction pipe connection nipple	1111674
40	Oil nozzle 0.40/80 S	1107131
41	Nozzle mounting	1107132
42	Mounting plate	1111675
43	Nut	1107134

No.	Designation	DZH 20-2
44	Photocell mounting	1103850
45	Photocell	1103840
46	Ignition cable with plug	1107137
48	Ignition electrode	1107139
52	Ignition transformer	1107143
53	Support plate	1107188
55	Switch cabinet housing	1107189
60	Strapping plug	1101019
61	Thermostat socket	1101018
62	Mains cable with plug	1107148
70	Burner pipe	1111679
71	Protective cap	1111680
72	Air slide	1111681
73	Support plate (STB)	1111682
74	Pressure line connection nipple	1111672
75	Connection nipple 1/4"-12x1.75	1111667
76	Suction pipe PF	1111684
77	Suction pipe TF	1111685
82	Terminal block	1103843
84	Motor mount	1111666
87	Seal	1107190
88	Reset key	1103845
89	Operating switch	1103847
90	Phase indicator light	1103848
91	Strain relief	1107149
93	Fuse holder	1103852
94	Fuse	1103851
95	Cladding plate	1103853
96	Protection	1103854
97	Automatic burner	1103844

When ordering spare parts, please state the EDP no., unit number and type (see name plate)!

10.3 View of the unit DZH 30-2 / DZH 50-2

Fig. 5: Exploded view

We reserve the right to modify the dimensions and design as part of the ongoing technical development process.

10.4 Spare parts list DZH 30-2 / DZH 50-2

No.	Designation	DZH 30-2	DZH 50-2
		EDP no.	EDP no.
1	Combustion chamber, compl.	1111690	1111705
5	Inspection cover	1111691	1111706
8	Protective intake grille	1111692	1111707
9	Fan blade	1111693	1111708
10	Fan housing	1111694	1111709
11	Fan motor, compl.	1111695	1111710
12	Capacitor	1107160	1107176
15	Container seal	1102148	1102148
16	Tank filter	1103776	1103776
17	Suction pipe	1111697	1111712
18	Protective cap	1107122	1107122
19	Transportation bracket	1107163	1111713
20	Stand	1107164	1107164
21	Drain screw sealing ring	1103777	1103777
22	Drain screw	1103778	1103778
23	Fuel tank	1111699	1111714
24	Axle	1107166	1107166
25	20 mm locking ring	1101622	1101622
26	Wheel	1102155	1102155
27	Electrical assembly	1103849	1103849
28	Carrier housing	1111700	1111715
29	Housing lower section	1111701	1111716
30	Hubcap	1101623	1101623
33	Fuel filter	1102146	1102146
34	Fuel pump, compl.	1107123	1107123
35	Solenoid valve coil	1103766	1103766
36	Solenoid valve core	1111671	1111671
37	Oil pressure line	1111673	1111673
41	Pump coupling	1107129	1107129
42	Suction pipe connection nipple	1111674	1111674
43	Oil nozzle 0.60 / 80 S	1107126	1111717
44	Nozzle mounting	1107132	1107132
45	Mounting plate	1111675	1111675

REMKO DZH series

No.	Designation	DZH 30-2	DZH 50-2
46	Nut	1107134	1107134
47	Photocell mounting	1103850	1103850
48	Photocell	1103840	1103840
49	Ignition cable with plug	1107137	1107137
51	Ignition electrode	1107139	1107139
52	Support plate	1107188	1107188
55	Ignition transformer	1107143	1107143
58	Switch cabinet housing	1107189	1107189
62	Mains cable with plug	1107148	1107148
63	Strapping plug	1101019	1101019
64	Thermostat socket	1101018	1101018
70	Burner pipe	1111702	1111702
71	Protective cap	1111680	1111680
72	Air slide	1111681	1111681
73	Support plate (STB)	1111682	1111682
74	Thermal cut-out (STB)	1111683	1111683
75	Connection nipple 1/4"-12x1.75	1111667	1111667
76	Suction pipe PF	1111703	1111703
77	Suction pipe TF	1111704	1111704
78	Pressure line connection nipple	1111672	1111672
79	Hose clip	1103762	1103762
84	Terminal block	1103843	1103843
85	Seal	1107190	1107190
87	Motor mount	1111696	1111711
88	Reset key	1103845	1103845
89	Operating switch	1103847	1103847
90	Phase indicator light	1103848	1103848
91	Strain relief	1107149	1107149
93	Fuse holder	1103852	1103852
94	Fuse	1103851	1103851
95	Cladding plate	1103853	1103853
96	Protection	1103854	1103854
97	Automatic burner	1103844	1103844

When ordering spare parts, please state the EDP no., unit number and type (see name plate)!

10.5 View of the unit DZH 90-2

Fig. 6: Exploded view

We reserve the right to modify the dimensions and design as part of the ongoing technical development process.

10.6 Spare parts list DZH 90-2

No.	Designation	DZH 90-2
		EDP no.
1	Combustion chamber compl.	1107376
2	Cover	1107377
5	Inspection cover	1107378
8	Protective intake grille	1107379
9	Fan blade	1107380
10	Fan housing	1107381
11	Fan motor, compl.	1107382
12	Capacitor	1107383
15	Container seal	1102148
16	Tank filter	1103776
17	Suction pipe	1107384
18	Protective cap	1107365
19	Transportation bracket	1107363
20	Stand	1107364
21	Drain screw sealing ring	1103777
22	Drain screw	1103778
23	Fuel tank	1107385
24	Axle	1107368
25	20 mm locking ring	1101622
26	Wheel	1101621
27	Electrical assembly	1103849
28	Carrier housing	1107386
30	Housing lower section	1107387
31	Hubcap	1101623
32	Hose clip	1103762
33	Fuel filter	1102146
34	Oil pump	1103765
35	Solenoid valve coil	1103766
36	Solenoid valve core	1111671
37	Oil pressure line	1111673
41	Pump coupling	1107129
42	Suction pipe 1/4” connection nipple	1111674
43	Oil nozzle 2.0/80 W	1107388
44	Nozzle mounting	1107389
45	Mounting plate	1107390
46	Nut	1107134
47	Photocell mounting	1103850
48	Photocell	1103840
49	Ignition cable with plug	1107137
51	Ignition electrode	1107139
52	Support plate	1107188
55	Ignition transformer	1107143
58	Switch cabinet housing	1107189
63	Strapping plug	1101019
64	Thermostat socket	1101018
65	Mains cable with plug	1107148
70	Burner pipe	1107391
72	Air slide	1107392
73	Support plate (STB)	1111682
74	Temperature limiter (STB)	1111683
75	Connection nipple 1/4"-12x1.75	1111667
76	Suction pipe PF	1107393
77	Suction pipe TF	1107394
78	Pressure line connection nipple	1111672
84	Terminal strip	1103843
85	Seal	1107190
88	Baffle plate	1107395
89	Shock absorber	1107369
90	Reset key	1103845
91	Operating switch	1103847
92	Phase indicator light	1103848
93	Strain relief	1107149
95	Fuse holder	1103852
96	Fuse	1103851
97	Cladding plate	1103853
98	Protection	1103854
99	Automatic burner	1103844

11 Index

REMKO QUALITY WITH SYSTEMS

Air-Conditioning | Heating | New Energies

REMKO GmbH & Co. KG
Klima- und Wärmetechnik

Im Seelenkamp 12
32791 Lage

Telephone +49 (0) 5232 606-0
Telefax +49 (0) 5232 606-260

E-mail info@remko.de
URL www.remko.de

Hotline within Germany
+49 (0) 5232 606-0

Hotline International
+49 (0) 5232 606-130