REMKO PWB

Automatic hot water heaters
for mobile use

Operation · Technology

Edition GB – G10

Contents

CE

Carefully read this operating manual prior to commissioning/using the units!
This operating manual is a translation of the German original.

These instructions are an integral part of the unit and must always be kept in the vicinity of the installation location or on the unit itself.

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

HOT WATER HEATERS

Safety notes

The units were subjected to extensive material, functional and quality inspections prior to delivery.

Nonetheless, it is still possible for dangers to emanate from the units if they are used improperly or by untrained personnel.

Always observe the following safety instructions:

- The respective building code regulations or other regulations must be observed as a basic rule
- The operator is responsible for the proper unit installation, the correct electrical supply and the safe operation of the units
- The units must be set up, installed and operated in such a way that no one is endangered or stressed by radiated heat
- Installation, connection of the heating medium, connection of the electrical system and the maintenance may only be carried out by trained, qualified persons
- The units may not be installed or operated in potentially flammable or explosive environments
- The units must be installed away from traffic zones.
  A safety zone with a clearance of 1 m must be ensured
- The units may only be operated in completely assembled condition and when stable
- Safety components (e.g. protection grids) must not be removed or rendered inoperative
- The units may only be used as intended within the specified output limits and with the approved conveying media **Observe name plate!**
- The protective grille of the intake and the intake filter must always be kept free of dirt and loose objects
- The unit outlet and intake shall not be closed
- Never insert foreign objects into the unit
- The unit may not be exposed to direct jets of water
- Never allow water to enter the units
- All electrical cables for the units must be protected against damage (e.g. by animals etc.)
- The customer-provided hot water hoses are to be protected from damage
- The water-side unit connection is to be carried out by the customer, secured against unauthorised loosening

NOTE

Fault-free function of the units is only guaranteed if the inlet temperature at the unit inlet and the pump performance are appropriate for the selected unit classification.

Unit description

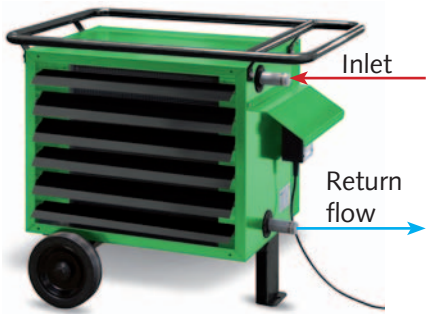
The automatic mobile hot water units are designed primarily for heating construction sites, tents, halls, etc.

The automatic mobile hot water units are available at short notice for heating halls, construction sites and buildings where the room heating system has not yet been installed.

The units are mobile, indirectly fuelled air heaters with Cu/Al finned heat exchangers for connection to a pumped hot water network up to max. 110 °C.

The units are equipped as standard with horizontal, individually adjustable air discharge fins and replaceable air intake filters.

An adjustable room thermostat from 0 - 40 °C and 3 m connection cable with Schuko plug are fitted to the unit.



A water connection kit # 1687005 is available as an option

The units are equipped with a noise-optimised and aerodynamically designed 230V/50Hz high-performance sickle-shaped axial fan.

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

Heating medium connection

Connection to the hot water heating system provided by the customer

Before connection to the on-site heating system, it must be ensured that the respective unit-specific output requirements can always be provided.

- The water-side unit connection is to be carried out by the customer with suitable water hoses and shut-off valves in the supply and return flow
- The finned heat exchangers are to be carefully bled after installation is complete
  Air pockets in the heat exchanger cause a reduction in the heating capacity!

Drainage when at risk of freezing

Complete static drainage of the finned heat exchanger is not possible.
Complete drainage of the finned heat exchanger is only possible with compressed air.

Important information for anti-freeze protection!
With systems that are decommissioned in rooms at risk of freezing, the heat exchanger may never contain water. The residual water should be blasted out with compressed air.

If this is not possible, the heating medium (water) must be mixed with suitable anti-freeze protection agent.

⚠ CAUTION

No guarantee claims can be accepted for frost damage on the finned heat exchangers!

Commissioning

Before the initial commissioning

1. Check that the unit has been installed/assembled correctly.
2. Check that the connection to the customer's hot water system has been implemented correctly.
3. Check whether all blower outlets are open.
4. Establish the power supply to the switchgear and switch on the unit with the temperature controller.

Electrical wiring

- The units are operated with 230V/50 Hz alternating current
- The electrical connection is made using a built-in mains cable with earthed safety plug
- Connect the power plug to a properly installed and appropriately safeguarded mains socket
- All cable extensions must only be used in fully unreeled or reeled off condition

NOTE

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

Shutdown

Set the temperature control of the thermostat to the "0" position.

With longer breaks in operation:

- Disconnect the unit from the electrical power supply
- Shut off or decouple the heating medium connections
- If there is a danger of frost, the complete system should be emptied if the heating medium (water) has not been mixed with suitable anti-freeze protection agent

Care and maintenance

In normal operation, the units are almost maintenance-free. However, in order to guarantee continuous fault-free operation, they should be checked at regular intervals and cleaned when necessary.

- The units should be fully disconnected (all poles) from the electrical power supply and secured to prevent unauthorised reactivation

Cleaning the units

- Clean or replace the intake filter at regular intervals
- Clean all intake openings and discharge fins
- To clean the fan blades, it is necessary to remove the intake filter and the protection grid beforehand
- Clean the heat exchanger fins by blowing, with suction or using a smooth brush
- Clean severe soiling on the fan and the aluminium fins with soap solution
- Clean the units dry or with a moistened cloth and some soap solution if necessary
- High pressure cleaners or steam cleaners shall not be used under any circumstances
- Never use abrasive or solvent-based cleaners

HOT WATER HEATERS

Intended use

The units are designed exclusively for mobile heating purposes in industrial or commercial use (not for heating living spaces) on the basis of their structural design and equipment.

The design of the mobile units allows rapid change in location and may only be operated in the design delivered from the factory.

Damage resulting from incorrect operation or commissioning by unauthorised persons, is excluded from guarantee claims.
The units conform to the fundamental health and safety requirements of the applicable EU provisions and have been checked several times in the factory to ensure their fault-free function.

The manufacturer shall not be liable for damage resulting from non-observance of the manufacturer's specifications, the respective local legal requirements or from unauthorised alterations to the units.

NOTE

Operation other than the types listed in this operating manual is prohibited. With non-observance, any manufacturer liability or guarantee claims are voided.

Customer service and guarantee

As a prerequisite for any guarantee claims to be considered, it is essential that the ordering party or their representative complete and return the **"Certificate of guarantee"** to REMKO GmbH & Co. KG at the time when the units are purchased and commissioned.

The units were tested at the factory several times to verify their correct function.
However, if malfunctions should arise that cannot be remedied by the operator with the assistance of the troubleshooting section, please contact your specialist dealer or contractual partner.

NOTE

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

CAUTION

Environmental protection and recycling

Disposal of packaging

When disposing of packaging material, please consider our environment.
Our units are carefully packed and delivered in stable transport packaging and, if applicable, on a wooden pallet.
The packaging materials are environmentally-friendly and can be recycled.
By recycling packaging materials, you make a valuable contribution to the reduction of waste and conservation of raw materials.
Therefore, only dispose of packaging material at appropriate collection points.

Disposal of the old unit

The manufacturing process for the units is subject to continuous quality control.

Only high-grade materials are processed, the majority of which are recyclable.

You also contribute to environmental protection by ensuring that your old equipment is only disposed of in an environment friendly manner.

Therefore, only bring the old unit to an authorised recycling business or to an appropriate collection point.

Technical data

Series		PWB 50
Heating capacity at 90/70 and 0 °C air entry temperature t_{L1}	kW	45 Air exit temp. t_{L2} 39 °C
Heating capacity at 60/50 and 0 °C air entry temperature t_{L1}	kW	34.5 Air exit temp. t_{L2} 30 °C
Electrical connection	V	1~230
Frequency	HZ	50
Power consumption	kW	0.50
Rated current	A	2.3
Electrical protection (provided by the customer)	A	16
Speed	rpm	1,380
Air volume	m³/h	3,000
Sound pressure level [1)]	dB(A)	58
Heating medium connection	Inches	2 x R1¼“
Heating medium		Pumped warm water or pumped hot water up to 110 °C
Max. operating pressure	bar	16
Heating medium flow rate	m³/h	2.0 (0.56 l/s)
Heating medium resistance	kPa	4.8
Enclosure class	IP	54
Dimensions (LxBxH)	mm	865 x 570 x 745
EDP:		1687000
Weight	kg	57

[1)] Measurement at a distance of 5 m, measured room volume 800 m³, average reverberation time 1.4 s

Output table

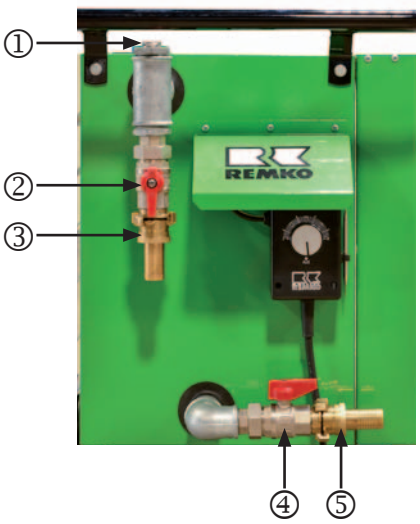
PWW heating medium	t_{L1} °C	kW	t_{L2} °C
50/40 °C	- 15	**36.1**	18
	- 10	**32.8**	20
	- 5	**29.5**	22
	0	**25.9**	24
	+ 5	**22.6**	27
	+ 10	**19.0**	29
	+ 15	**15.6**	31
	+ 20	**12.0**	32
60/50 °C	- 15	**45.9**	24
	- 10	**42.3**	26
	- 5	**38.1**	28
	0	**34.5**	30
	+ 5	**31.1**	34
	+ 10	**27.3**	36
	+ 15	**23.8**	37
	+ 20	**20.1**	39
70/50 °C	- 15	**46.1**	25
	- 10	**42.6**	27
	- 5	**38.8**	28
	0	**34.9**	30
	+ 5	**31.4**	34
	+ 10	**27.6**	36
	+ 15	**22.8**	36
	+ 20	**18.2**	37

PWW heating medium	t_{L1} °C	kW	t_{L2} °C
80/60 °C	- 15	**52.9**	31
	- 10	**49.7**	33
	- 5	**46.1**	35
	0	**42.6**	37
	+ 5	**38.8**	41
	+ 10	**34.9**	43
	+ 15	**31.4**	44
	+ 20	**27.6**	46
90/70 °C	- 15	**54.0**	31
	- 10	**50.8**	34
	- 5	**48.1**	36
	0	**45.0**	39
	+ 5	**41.9**	44
	+ 10	**38.6**	46
	+ 15	**35.3**	48
	+ 20	**31.8**	50

t_{L1} Air inlet temperature

t_{L2} Air outlet temperature

Water connection kit
optional # 168705



Legend

1 = Bleed valve
2 = Shut-off valve (inlet)
3 = Quick coupling with safeguard
4 = Shut-off valve (return flow)
5 = Quick coupling with safeguard

REMKO INTERNATIONAL

... and also right in your neighbourhood! Take advantage of our experience and advice

Consulting
Thanks to intensive training, our consultants are always completely up-to-date when it comes to technical expertise. This has given us the reputation of being more than just an excellent, reliable supplier: REMKO, a partner who helps to solve problems.

Sales
REMKO offers not just a well established sales network both nationally and internationally, but also has exceptionally highly-qualified sales specialists. REMKO employees in the field are more than just sales people: above all, they must be advisers to our customers in air conditioning and heating technology.

Customer service
Our units operate precisely and reliably. However, in the event of a malfunction REMKO customer service is quickly on the scene. Our extensive network of experienced dealers guarantees quick and reliable service.

REMKO GmbH & Co. KG
Air conditioning and heating technology

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