



KONVEKTA

Thermo Systems

Operating Instruction

for

KONVEKTA Air Conditioner

KL60i/4

- R134a
- 24V
- 2-circuit

ID#: BBA-78-6712AA
Version: A02

Konvekta AG

Am Nordbahnhof 5
34613 Schwalmstadt
Germany



+49 (0) 66 91 / 76 – 0



+49 (0) 66 91 / 76 - 200



Info@konvekta.com

www.konvekta.com

Contents

Page:

• Introduction	3
• Information on the operating instructions	4
 1. Technical data Air Conditioner	5
1.1. Technical data compressor	5
 2. Intended use.....	6
2.1. General information on air conditioning unit.....	6
2.2. Operating Conditions.....	6
 3. Operation	7
3.1. Operation panel / function of the keys	7
3.2. Operation of a/c system	7
 4. Maintenance / Service	8
4.1. Filter.....	8
4.2. Condenser coil.....	8
4.3. Trouble check list.....	9
 5. Warranty Conditions.....	10
 6. Waste disposal in accordance with legal provisions.....	10
 7. History of modification.....	10

Appendix:

- KONVEKTA Service Stations
- Maintenance Schedule Bus [WP07050618](#)

Introduction

These operating instructions have been written for drivers, operators and the maintenance staff of your air conditioning unit.

In this context, we refer implicitly to the compliance with our general installation guidelines. These can be obtained from the KONVEKTA technical after sales service: TKD@konvekta.com.

It contains:

- Operating instructions
- Safety information 
- Service information

These operating instructions have to be read carefully and made use of before the first start-up and after that regularly by each person who is involved in handling the machine:

- Operation including troubleshooting and waste disposal of fuels and auxiliary agents.
- Servicing, inspection, repair
- Transport

This facilitates the handling and avoids trouble caused by improper operation. Working in compliance with these operating instructions increases operation reliability and service life of the air conditioning unit and reduces life cycle costs.

 **Please complete these instructions by adding the national provisions for prevention of accidents and environmental protection.**

 **These instructions are part of the air conditioning unit. Always have a copy at hand in the driver's cabin.**

You will certainly understand that we will not recognize any warranty claims due to improper handling, inadequate maintenance, applications that do not correspond with the determined use, utilization of unadmitted fuels or the non-observance of safety provisions.

KONVEKTA will annul without prenotice all obligations concerning guarantee, service contracts etc. regardless if granted by KONVEKTA or its distributors in case other than original KONVEKTA spare parts or parts bought from KONVEKTA AG have been used for maintenance and repair.

These operating instructions contains all necessary information to operate your air conditioning unit. In case you need more explanations please contact the next KONVEKTA service station^①.

^① see hand book „KONVEKTA Service Stations

Information on the operating instructions

This Operating instruction is valid for the air conditioners type:

- KL60i/4

When taking the unit into operation we recommend to add the following data.
This will also be important for your orders of spare parts, and in case of warranty.

Serial number of evaporator:

Serial number of condenser:
--

Order No.: A (X) /

Year of construction: / (MM/JJ)
--

Date of first operation: / / (TT/MM/JJ)
--

The machine corresponds with the safety provisions of the EC # 89/392/EWG i.d.F. 91/368/EWG and 93/44/EWG.

Due to the fact that scope of supply depends on the order, equipment of your product may differ in some parts of description.

In case your product is equipped with details not shown or described in the operating instruction, your KONVEKTA -Service-Station will always be at disposal for informing you about correct operation.

In the course of further developments we reserve the right to technical modifications without pre-notice. Guarantee and liability conditions of KONVEKTA AG's general business conditions are not enlarged by the above notes.

Indications and photos should neither be copied and circulated nor used for competitor's purposes. All rights according to the copyright remain expressly reserved.

Manufacturer: KONVEKTA AG, P.O.- Box 2280, D-34607 Schwalmstadt

I. Technical data Air Conditioner

Refrigerant R134a

Type	VD6067	VD6069	DKD654	DKD655
Part no.:	B78-180024-671	B78-180024-672	B76-270024-665	B76-270024-668
Operating voltage	24 Volt DC	24 Volt DC	24 Volt DC	24 Volt DC
Current consumption	27 Ampere	27 Ampere	24 Ampere	24 Ampere
Cooling capacity	18.000 Watt	18.000 Watt	27.000 Watt	27.000 Watt
Air volume	3.300 m³/h	3.300 m³/h	6.000 m³/h	6.000 m³/h

Pressure Switches:

Low pressure switch	0,3 ± 0,1 bar off	2,1 ± 0,2 bar on
High pressure switch	25,5 ± 0,5 bar off	18,0 ± 1,0 bar on

I.1. Technical data compressor



Important:

To avoid leakages at the shaft seal of the compressor:

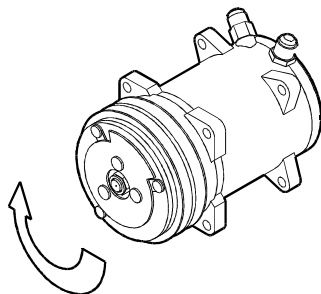
The compressor should be started every 4 weeks for approx. 15 minutes!

This also applies when the vehicle is not into operation for a longer period or when the air conditioning unit is not used!

Type	2 x SD7H15
weight	7,5 kg
oil brand	PAG
- quantity	corresponding to version ^①
magnetic clutch	Ø 132mm/2xSPB/24VDC

^① list is attached to compressor,(Instruction no: TD00031A)“

Attention for SD7H15
only clockwise rotation!



2. Intended use

The **KONVEKTA** air conditioning unit is an air conditioning system that works with the ozone friendly refrigerant R 134a and which creates a pleasant and individually adjustable room temperature by means of forced convection. The determined use includes also the observance of the operating instructions as well as the proof of regular inspections.

2.1. General information on air conditioning unit

- **A/C unit is only operating with running engine.**
- At cooling operation the humidity inside the vehicle is decreased, which avoids steamed-up windows.
- The air conditioning unit works most effectively with windows and doors shut. If, however, the interior of the standing vehicle has been heated up severely by exposure to sunlight, short-time opening of windows/doors may accelerate the cooling down process.
- At high outside temperature and humidity, condensate might drip off the evaporator and make a puddle under the vehicle. This is quite normal and no sign for a leakage.
- The filter in the return air grid (optional) retains contaminants. If the outside air is contaminated with gas, switch over to return air operation. The filter should be cleaned or replaced respectively on a regular basis so that the capacity of the a/c unit is not affected.
- If you think that the air conditioning unit has been damaged switch it off immediately in order to avoid further damage. The air conditioning unit may be taken into operation again only after it has been checked at a KONVEKTA Service Station^①.

^① see hand book, „KONVEKTA Service Stations“

2.2. Operating Conditions

NOTE:

KONVEKTA uses components made of copper and aluminium, which last a whole unit lifetime under normal environmental conditions. Should the units be operated under aggressive environmental conditions, i.e. air containing salt-, phosphate- or ammoniac extremely, a corrosion of the copper- and aluminium components cannot be ruled out. The copper- and aluminium components of the KONVEKTA systems are not suitable for such extreme application conditions. We indicate emphatically, that corrosion is not subject to warranties for defects. KONVEKTA does not take over any warranties for defect, neither for corrosion nor for consequential damage resulting there from, nor for damages caused by cleaning the systems with highly compressed or corrosion advancing substances.

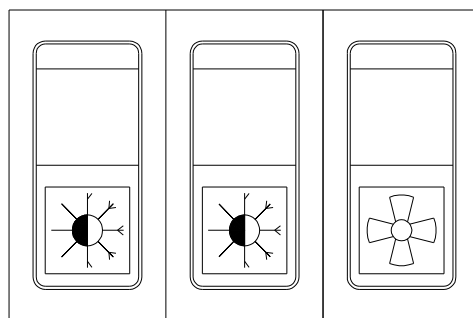
3. Operation



Danger of accidents

- Focusing your attention on the road traffic is of top priority.
- Only operate your air conditioning unit when the traffic situation allows it
- Make sure you can clearly recognize and read all operation- and display-elements at any time

3.1. Operation panel / function of the keys



(BB-ZVW0-039)

	S1	S2	S3
S1	switch A/C circuit 1		position 0 - OFF position I - ON
S2		switch A/C circuit 2	position 0 - OFF position I - ON
S3		switch ventilation	position II - ventilation fast position 0 - ventilation slow position I - ventilation medium

3.2. Operation of a/c system

- Start vehicle engine (refer to orig. operating instruction of the vehicle).
- The air conditioning unit is switched on by pressing „A/C“ (**S1 or S2**), ventilation runs automatically according to the adjusted blower step (switch S3 position I-0-II)
- Adjust air volume by pressing switch „**ventilation**“ position „I“, „0“ or „II“)

Note:

The compressors can only operate, if switches „A/C“ (**S1 and/or S2**) are in position „I“.

4. Maintenance / Service

Maintenance and service works have to be done in accordance with the “Maintenance Schedule Bus, Item no: [WP07050618](#). - Only qualified staff is allowed to carry out these works! -

For general instructions on repair – and maintenance works please contact via email: TKD@konvekta.com



Danger of accident!

Qualified staff in charge of installation and maintenance have to be trained in accordance with EN 378-Part 4 and must strictly follow the legal provisions.

Any works or modifications at the air conditioner which are carried out improperly can lead to malfunction and so endanger operational reliability. We recommend to have all works and modifications carried out at an authorized KONVEKTA Service Station^①. The same applies to the regular maintenance works as prescribed and specified in the maintenance certificate.

Before carrying out any maintenance works at your air conditioning unit, carefully read the KONVEKTA safety provisions (TD00052A^②) in order to avoid any dangers and accidents!

^① see hand book „KONVEKTA Service Stations

^② source of supply: KONVEKTA AG, P.O. Box 2280, D-34607 Schwalmstadt

4.1. Filter

Reference to Maintenance Schedule Bus No.: WP 07 05 06 18 Item WK13:

Clean air suction filter (in the area of evaporator) in the passenger area monthly, in case of enormous dirt weekly.



Important:

If the filter is soiled, the cooling performance of the air conditioner will decrease.

It is not allowed to operate the air conditioner without filter.

In case the a/c unit will be operated continuously with dirty filter, the evaporator blowers will be damaged!

4.2. Condenser coil

Reference to Maintenance Schedule Bus No.: WP 07 05 06 18 Item WK03:

Always keep condenser coil fins clean. Severe soiling causes excess pressure within the a/c-unit system and it automatically stops working.

Attention: The condenser coil fins have to be cleaned with compressed air at least once a year, in case of severe soiling more often.

4.3. Trouble check list



Only qualified staff is allowed to carry out these works!

Trouble	Cause	Repair by authorized Service Station ^① only
a/c is not running	thermostat open	check inside temperature ^② re-adjust thermostat ^②
	electric connections disconnected	check electric connections at switchboard
	relay defective	check relay, replace if necessary
	defrost thermostat has switched off	check evaporator blower, replace if necessary
	outside temperature too low (possible icing of evaporator)	switch on "ventilation" only
	evaporator coil dirty	clean evaporator coil with compressed air
	excess pressure caused by high outside temperature	run unit until pressure has stabilized ^②
	leakage in a/c unit, lack of refrigerant	check a/c unit for leakages, refill refrigerant
	excess pressure (pressure too high)	check axial fans check fuses at switchboard clean condenser coil with compressed air
	low pressure, dryer clogged	replace dryer
	low pressure, screen of expansion valve clogged	clean screen; replace dryer
	magnetic clutch	check connections at magnetic clutch
	compressor does not compress	check high and low pressure, replace compressor if necessary
Loud noise at compressor	defective bearing at compressor	replace either bearing or entire compressor
	slack V-belt	check V-belt at compressor drive

^① see hand book,,KONVEKTA Service Stations

^② by operator

5. Warranty Conditions

The current „General Warranty Conditions KONVEKTA AG“ will apply. A copy will be furnished by the warranty department. Please contact gwl@konvekta.com

6. Waste disposal in accordance with legal provisions

After the phase of use the last proprietor is responsible for the adequate waste management. The environmental regulations in the exporting country must be observed.

The following list contains the most important regulating literature, valid for the *Federal Rep. of Germany*.

Resolution for dangerous substances	Resolution for used oil
Law for waste circulation (KRW/AfgG))	Law of water balance
Resolution for the proofs of utilization and removal	Resolution for the waste management of old cars and the adaptation of road prescriptions
Criminal Code (StGB) 28th section „criminal acts against the environment“ §326 - Environment jeopardizing waste management	Resolution (EWC) No.3093/94 for materials that affect the ozone layer
Law of chemicals § 27 - penal prescriptions	Resolution to prohibit certain ozone destroying halogen hydrocarbons.

The used refrigerant endangers the environment. When dealing with refrigerants the existing prescriptions and regulations are to be followed . **Only skilled personnel is allowed to carry out these works!**

Water endangering substances - acc. to §§19g-19l - are solid, liquid, and gaseous substances. e.g.: mineral and tar oils (cooling oils), halogen containing organic combinations (refrigerants).

7. History of modification

version	date	name	remark	file
A00	11.09.2001	Pfluger	source file	BA78-6712AA
A01	21.02.2007	Pfluger	Update “Warranty Conditions” and “Maintenance / Service”, Added Tech. Data: VD6069 and DKD655	BA78-6712AA
A02	26.11.2007	B.Keßler	Point 1.1 “Important” updated; added point 2.2; file updated	BA78-6712AA