

Truma VarioHeat comfort US



LP gas heater

Operating instructions

To be kept in the vehicle.
This document is part of the heater.



Conforms to ANSI Std. Z21.47
Certified to CSA Std. 2.3

▲ WARNING

FIRE OR EXPLOSION HAZARD

Failure to follow safety warnings exactly could result in serious injury, death or property damage.

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

WHAT TO DO IF YOU SMELL GAS

- **Evacuate all persons from the vehicle.**
- **Shut off the gas supply at the gas container or source.**
- **Do not touch any electrical switch or use any phone or radio in the vehicle.**
- **Do not start the vehicle's engine or electric generator.**
- **Contact the nearest gas supplier or certified service technician for repairs.**
- **If you cannot reach a gas supplier or certified service technician, contact the nearest fire department.**
- **Do not turn on the gas supply until gas leaks have been repaired.**

Installation and service must be performed by a certified service technician, service agency, or the gas supplier.



More comfort on the move

Table of Contents

Trademark information	2
Intended use	2
Prohibited use	2
Mounting arrangement / Accessories	3
VarioHeat Overview	4

Consumer Safety Information

Safety symbols and signal words	5
Safety behavior and practices	5
Safety features	7

Operating Instructions

How the VarioHeat works	7
Selectable modes of operation	8
Switch for gas shut-off valve	8
Room temperature sensor	8
Starting the VarioHeat	8
Inspections before each use	8
Switching on the VarioHeat	9
Shutdown	9
Switching off the VarioHeat	9
Truma CP plus VarioHeat control panel	9
VarioHeat Technical Data	10
“VarioHeat” MANUFACTURER’S LIMITED WARRANTY	11
Maintenance and service	12
Replacing the 12-volt fuse	12
Troubleshooting	12

Appendix

Warning labels	13
-----------------------------	----

California Proposition 65 lists chemical substances known to the state to cause cancer, birth defects, death, serious illness or other reproductive harm. This product may contain such substances, be their origin from fuel combustion (gas) or components of the product itself.

Trademark information

Truma VarioHeat comfort US referred to as VarioHeat below.

Truma CP plus VarioHeat referred to as CP plus VarioHeat below.

Intended use

The VarioHeat may be used only in recreational vehicles (RVs) for heating the room.

Recreational vehicles (RVs) are designed as temporary living quarters for recreation, travel and/or camping. RVs have their own power or are towed by another vehicle.

Prohibited use

Any use other than the intended use (see above) is prohibited.

Examples of prohibited use:

- Use in a marine environment.
- Use as part of a space heating system.
- Use in mobile homes.
- Use in food trucks or roadside food vending vehicles.
- Use in construction trailers.

Mounting arrangement / Accessories

i This is a typical installation for illustration. The installation in your vehicle may vary. The illustration is not to scale.

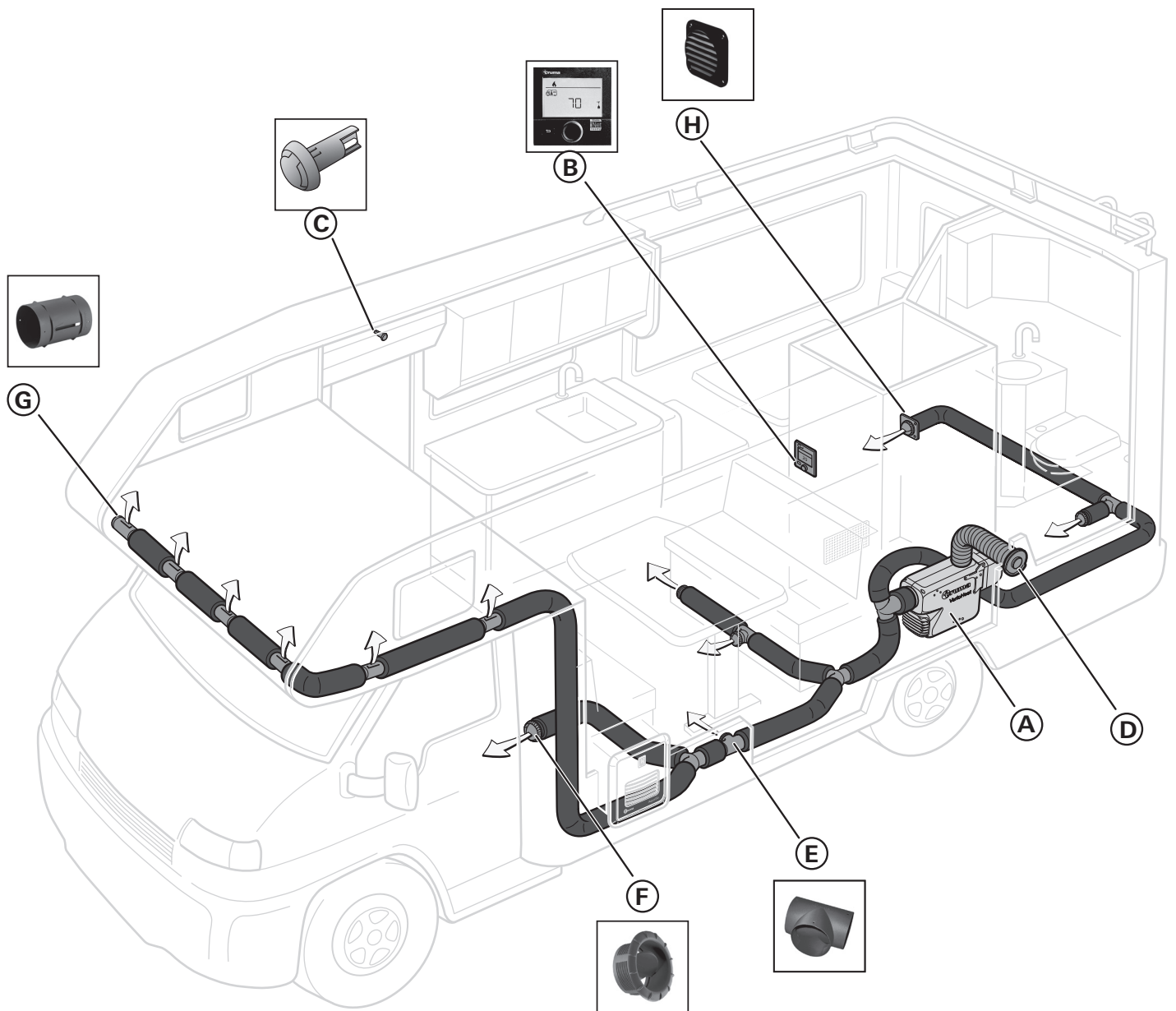


Fig. 1

Legend

- A VarioHeat
- B CP plus VarioHeat
- C Room temperature sensor
- D Exhaust venting system
- E T-piece TS
- F End outlet EN
- G Wall outlet vent WL
- H Swivel air outlet SCW 2

VarioHeat Overview

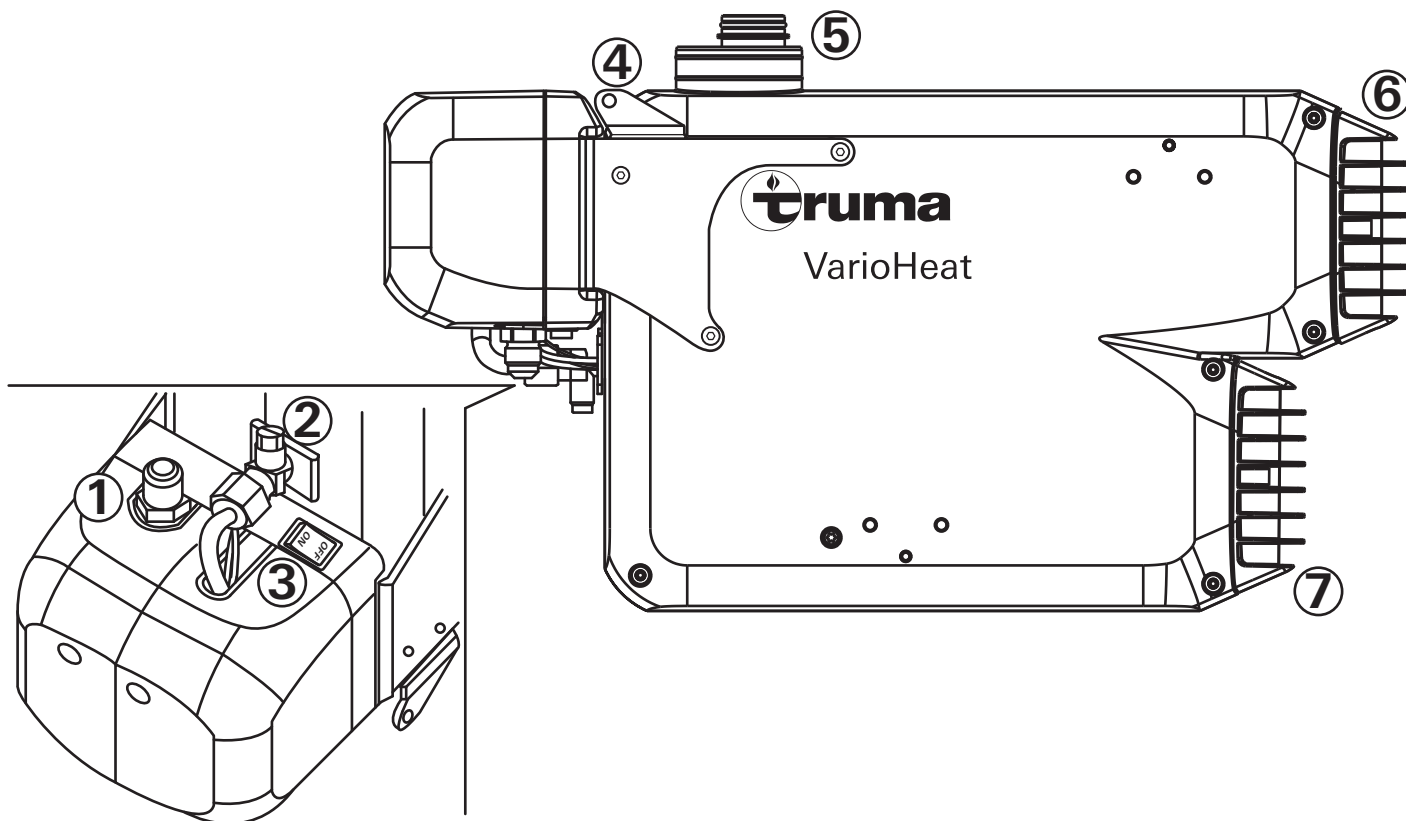


Fig. 2

Legend

- 1 Gas connection
- 2 Gas test pressure point
- 3 Switch for gas shut-off valve
- 4 Retainer
- 5 Exhaust venting system
- 6 Warm air outlet
- 7 Circulated air intake

Consumer Safety Information

Safety symbols and signal words

⚠ This is the safety alert symbol. This symbol alerts you to potential hazards that can kill or hurt you and others.

⚠ DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE is used to address practices not related to physical injury.



Other important information or tips

Safety behavior and practices

Ensuring a safe operating environment

- **⚠ DANGER** Suffocation through exhaust gases To ensure dissipation of exhaust gases, operate the VarioHeat outdoors only.
 - Never use in enclosed spaces or tents or breathe in the exhaust gases.
 - If installing an airtight awning, make sure that the exhaust system terminates to the outdoors.
 - If the RV is parked in an enclosed space:
 - Block the flow of fuel to the VarioHeat.
 - Deactivate the time switch.
 - Switch off the VarioHeat at the control panel.
 - Ensure that the VarioHeat cannot be switched on through the Truma App under any circumstances.
- Use the VarioHeat only with a functional LP gas and carbon monoxide detector installed in the RV. For installation, operation and function test follow the manufacturer's guidelines.
- Keep the area around the VarioHeat free from combustible materials, gasoline, and other flammable vapors or liquids such as pressurized dispensers or wax candles.

- Keep the area in front of the warm air outlets (Fig. 1 – 6) free of combustible or heat-sensitive materials. Do not put any material into the warm air outlets.
- In order to avoid overheating of the VarioHeat, keep the air inlets of the VarioHeat (Fig. 2 – 7), the air openings to the area in which the VarioHeat is installed (Fig. 1) and the spacing around the VarioHeat free of obstruction.
- To ensure clean combustion, keep the wall cowl free of obstruction. Do not lean any objects against the wall cowl (Fig. 1 – D).
- Danger of hot surfaces. The temperature of the exhaust gases can reach 320 °F (160 °C). Do not touch the area around the wall cowl and do not lean any objects against the wall cowl or the RV.

Responsibilities of the operator

- The vehicle owner is responsible for ensuring that the appliance can function properly.
- LPG systems must comply with the technical and administrative regulations of the country in which they are used. National rules and regulations must be observed.

Safe operation

- Use with LP gas (propane) only. Butane or any mixtures containing more than 10 % of butane must not be used.
- Danger of damage to the gas system! For the operation of gas pressure regulation systems, gas-burning devices or gas systems only gas cylinders that supply gas in the gaseous phase may be used. Gas cylinders which supply gas in the liquid phase are prohibited.
- During the initial start-up of a brand new appliance, small quantities of fumes and a slight odor may occur briefly. When the appliance is started up after a particularly long period of non-use, there may be some smoke and/or smell due to dust or dirt. It is a good idea to allow the appliance to run at maximum output for a few minutes and to ensure that the area is well ventilated.
- Hot air can be dangerous, especially for infants, children, the elderly, or infirm. It can cause burns:

- Ventilation air can reach 250 °F (121 °C) at the warm air outlets. Always check the air temperature before varying the air throttle position (Fig. 1 – E,G,H).
- Children up to 17 years of age as well as people with physical, sensory, or mental disabilities and/or people who are inexperienced or unknowledgeable may use the VarioHeat heater only if they are supervised or have been instructed in the safe use. They must also understand the risks associated with using it. Children must not play with the VarioHeat.
- The operating pressure of the gas supply 12 in. wc (30 mbar) and the appliance (see type plate) must match.
- The exhaust double duct must be inspected regularly to ensure that it is not damaged and is firmly connected especially after long trips; the fixing of the appliance and the cowl must also be checked.

Safe operation while moving the RV

- Shut OFF gas and the LPG tank when moving the RV. This disables all gas appliances and pilot lights. Gas appliances must never be operated while vehicle is in motion.
- Shut OFF the VarioHeat when refueling or pumping gas.
- To avoid damage, make sure no spray water enters the VarioHeat when cleaning the RV, e.g., do not spray directly into the wall cowl.

Safe handling of malfunctions

- Switch OFF the gas supply and the VarioHeat if anything seems to be out of the ordinary.
- Danger of fire or explosion when attempting to use a flood-damaged VarioHeat or if the RV has been involved in an accident! A qualified service technician must inspect the VarioHeat. In the case of moisture damage, the qualified service technician must replace damaged gas controls, control system parts and/or electrical parts, or provide a new VarioHeat.
- Only a qualified service technician may perform repairs.

- Have a qualified service technician immediately remedy any malfunctions.
 - Remedy a malfunction yourself only if a remedy is specified in the troubleshooting chart in these operating instructions (refer to “Troubleshooting” on page 12).
- After any misfire, a qualified service technician must inspect the VarioHeat and the exhaust tube.

Safe maintenance and repair

- Only a qualified service technician may clean and maintain the VarioHeat.
- Any alteration to the VarioHeat or its controls can cause unforeseen serious hazards and will void the warranty.

Safety features

The VarioHeat is equipped with the following safety devices:

Switch for gas shut-off valve

The switch (Fig. 2 - 3) shuts off the power to the safety gas valve and the gas supply to the VarioHeat. If you want to make sure that the gas supply to the VarioHeat is off, turn the switch to the OFF position.

Flame monitoring

If the flame goes out, the gas supply is switched off.

Low-voltage shut down

If the voltage drops below 10 VDC, the gas supply is switched off.

Overcurrent protection

If there is a short circuit in the VarioHeat (>10 A), a fuse on the control unit is activated and the VarioHeat is switched off.

Monitoring of hot air temperature

An air over temperature switch avoids excessively high air temperatures.

Operating Instructions

Read and follow the “Consumer Safety Information” before operating the VarioHeat.

NOTICE **Danger of faulty operation!**
Always use the CP plus VarioHeat control panel to operate the VarioHeat. Operating instructions are supplied with the CP plus VarioHeat control panel.

How the VarioHeat works

VarioHeat is a warm air heater for circulated air mode designed to heat RVs quickly. The appliance automatically selects the proper operating level based on the difference between the desired temperature set at the control panel and the current room temperature.

It also has a boost function for rapid heating and a night function for quiet operation. The different ventilation levels allow air circulation without heating.

Other functions can be selected with the digital control panel, such as a time switch or operation of a Truma AquaGo (refer to the Truma CP plus VarioHeat digital control panel operating instructions).

The appliance always starts at the lowest setting. If this is not sufficient to achieve the desired temperature in the vehicle, the appliance switches to a higher operating level after about 5 minutes.

A wall cowl allows combustion air to flow into the heater and exhaust gas to flow out. The wall cowl and the heater are connected by a tube in the tube exhaust venting system: an exhaust tube inside and a combustion air intake tube outside.

Selectable modes of operation

The CP plus VarioHeat control panel (Fig. 1 – D) is used to switch between modes of operation.

Heating mode

The VarioHeat automatically selects the proper operating level based on the difference between the desired temperature set at the control panel and the current room temperature.

Switch for gas shut-off valve

The switch (Fig. 3) shuts off the power to the safety gas shut-off valve and with this the gas supply to the VarioHeat heater. To make sure that the gas supply to the heater is off, turn the switch to the OFF position.

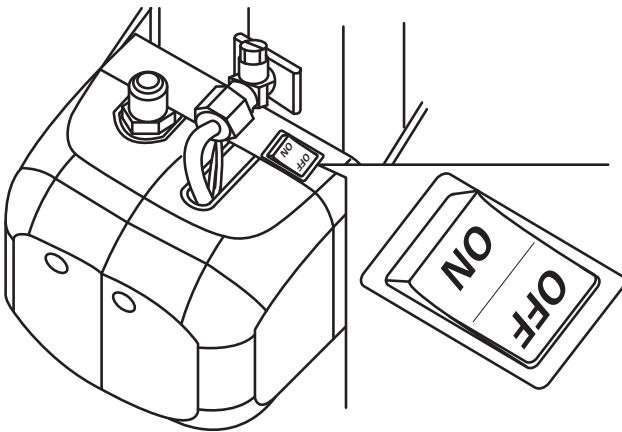


Fig. 3

Gas shut-off valve - switch positions:

Off = gas shut-off valve is closed

On = gas shut-off valve is open

Room temperature sensor

A room temperature sensor (Fig. 1 – C) measures the temperature inside the RV.

The installation location for the room temperature sensor depends on the RV and will be chosen by the RV manufacturer.

Starting the VarioHeat

▲ WARNING

Danger of over-temperature and toxic exhaust gases!

- Use with LP gas (propane) only. Butane or any mixtures containing more than 10 % of butane must not be used.
- Keep the air inlet and exhaust gas outlet free of obstructions. Do not lean any objects against the wall cowl on the RV or place any objects within a range of 2 feet (61 cm) of the wall cowl.

▲ WARNING

Danger of combustion and damage to persons and the RV!

- Keep the area around the VarioHeat free from combustible materials, gasoline, and other flammable vapors or liquids.
- Switch the gas supply and the VarioHeat off:
 - if anything seems to be out of the ordinary.
 - if you smell gas.
 - if you move the RV.
 - before entering a gas station.
 - before entering a tunnel.
 - before entering a ferry boat.

Inspections before each use

Check the VarioHeat for the following points before each use. In case of damage, contact an authorized Truma service provider and do not operate the VarioHeat.

- Inspect the VarioHeat (Fig. 1 – A), exhaust venting system (Fig.1 – E), and wall cowl (Fig.1 – E) for damage. Verify that connections are tight and fasteners are secure.
- The wall cowl (Fig. 1 – E) for drawing in combustion air and emitting exhaust must be free from obstructions such as slush, ice or leaves. The heater will not function properly if the combustion-air inlet or exhaust tube is partially or completely obstructed.

- The warm air outlets (Fig. 2 – 6), the wall outlet vents (Fig. 1 – H) and the openings for the circulated air intake (Fig. 2 – 7) must be free from obstructions to ensure that the heater functions properly. Any obstructions might cause the VarioHeat to overheat. If this happens, the built-in temperature limiter will interrupt the flow of gas to the VarioHeat. Once the VarioHeat has cooled, it will switch on again automatically.
- Access to adequate quantities of LP gas (fuel inlet pressure 11 – 13 in. wc (27.4 – 32.4 mbar)) and 12 V power must be available.

Switching on the VarioHeat

i For the heater to work properly, there must be enough LP gas (propane >11 in. wc) and 12 VDC power.

1. Switch on the VarioHeat's 12 VDC power supply.
2. Make sure the supply of LP gas is turned on at the tank.
3. Make sure the gas shut-off valve is switched on (refer to "Switch for gas shut-off valve" on page 8).
4. Use the CP plus VarioHeat control panel to switch on the VarioHeat (refer to "CP plus VarioHeat control panel" for additional instructions).

▲ WARNING

Burn injuries caused by hot air!

Ventilation air can reach 250 °F (121 °C) at the warm air outlet and it can cause severe burns or in extreme cases even death.

- Always check the air temperature before varying the Swivel air outlet SCW 2 position (Fig. 1 – H).

5. Use the CP plus VarioHeat control panel to set the desired room temperature.

Shutdown

Switching off the VarioHeat

1. Switch off the VarioHeat heater using the CP plus VarioHeat control panel. Due to internal processes, it may take some time until the VarioHeat is completely shut down.
2. If the VarioHeat and any other gas-powered device is not needed anymore, turn off the LP gas supply.

Truma CP plus VarioHeat control panel

The Truma CP plus VarioHeat digital control panel is described in separate operating instructions.

VarioHeat Technical Data

Fuel	LP gas (propane only)
Inlet pressure	11 – 13 in. wc (27.4 – 32.4 mbar)
Manifold pressure	10 in. wc (24.9 mbar)
Temperature rise	<134 °F (75 °C)

Energy Input Rate / Gas Consumption

LP gas mode	Operating level 1	Operating level 2	Operating level 3
Truma VarioHeat	4700 BTU/h (1.4 kW) 3.5 oz/h (100 g/h)	8900 BTU/h (2.6 kW) 6.7 oz/h (189 g/h)	11500 BTU/h (3.4 kW) 8.6 oz/h (245 g/h)

Power supply

Power consumption at 12 VDC (DC < 1 Vpp)

Truma VarioHeat	5.4 A
-----------------	-------

Shipping weight (without peripheral equipment)

Truma VarioHeat	17.6 lbs. (8.0 kg)
-----------------	--------------------

Truma Gerätetechnik GmbH & Co. KG
("Truma")

"VarioHeat" MANUFACTURER'S LIMITED WARRANTY

(September 2014)

This limited warranty pertains solely to the "VarioHeat" (the "Product") manufactured by **Truma** and sold through its affiliates and dealers in North America.

Truma warrants subject to the below stated conditions that the Product will be free from defects in material and workmanship, and will perform in accordance with the technical specifications set forth in the description of the Product for a period of twelve (12) months for newly manufactured parts from the original date of purchase. The original purchaser is advised to register the Product within two (2) months of purchase at **www.truma.net** in order to receive an extended warranty of an additional twelve (12) months. This limited warranty shall only apply if the Product was properly installed according to the installation instructions provided and in compliance with applicable codes.

During the warranty period, Truma will repair or replace, at its own discretion and costs, the defective Product or parts or components of such Product reported to Truma and which Truma determines was defective due to a warranty defect. Costs of diagnosis for a warranty defect are borne by Truma. Other costs of diagnosis are not included in this warranty. At the discretion of Truma, the replacement of the Product or parts or components thereof (i) may be newly manufactured, (ii) may be assembled from new or serviceable used parts that are equivalent to new parts in performance, or (iii) may have been previously installed.

The customer shall not attempt to repair the Product or resolve the problem without the prior consent of Truma. Any attempt by the customer to repair the Product or resolve the problem without the prior consent of Truma will void this warranty.

This limited warranty does not cover any defects attributable in whole or in part to (i) non-Truma products and services and / or alterations of out-of-specification supplies, (ii) accidents, misuse, negligence or failure of the customer to follow

instructions for the proper use, care and cleaning of the Product, (iii) damages caused in gas pressure regulation systems due to foreign substances in the gas (i.e. oil, plasticizers), (iv) external factors (e.g., fire, flood, severe weather), (v) failure of proper transport packaging, or (vi) failure by the purchaser to comply with Truma's installation and user manual regarding the Product.

All warranty claims must be reported to Truma's authorized warranty service center in the United States:

Truma Corp Service Center,
825 East Jackson Blvd., Elkhart, IN 46516,
toll free: (855) 558-7862, fax. (574) 538-2426,
service@trumacorp.com, www.truma.net

The purchaser shall provide the following information regarding the potential warranty claim (i) serial number of the defective device, (ii) proof of purchase, (iii) purchaser's contact information.

EXCEPT AS EXPRESSLY STATED AND SET FORTH HEREIN, THERE ARE NO WARRANTIES OR REPRESENTATIONS, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT AND NO SUCH WARRANTIES OR REPRESENTATIONS SHALL BE IMPLIED UNDER ANY APPLICABLE LAW, IN EQUITY OR OTHERWISE, INCLUDING WITHOUT LIMITATION, A WARRANTY OF MERCHANTABILITY, A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, OR ANY OTHER WARRANTY WHICH MAY BE IMPLIED UNDER COMMON LAW OR UNDER THE UNIFORM COMMERCIAL CODE OF ANY STATE OR OTHER JURISDICTION OF THE UNITED STATES OF AMERICA.

Unless further limited herein, the entire liability of Truma and the customer's exclusive remedy for damages from any cause related to or arising out of a warranty defect, regardless of the form of action, whether in contract or in tort, will not exceed the amount of the purchase price for each purchase order for the Product which is the subject matter or directly related to the causes of action asserted.

Unless prohibited under applicable state law, in no event will Truma, its agents, subcontractors, affiliates, suppliers and employees be liable for (a) any incidental, indirect, special or consequential damages, including, but not limited to, loss of use, revenue, profits or savings, substitute rental or for any other reason, even if Truma knew or should have known of the possibility of such losses or damages, (b) claims, demands

or actions against the customer by any person, except as provided by applicable law.

Maintenance and service

Repairs must be performed by a qualified service technician. Truma recommends that the VarioHeat be inspected annually by a qualified service technician.

▲ WARNING

Danger of electrical shock, fire, scalding and/or explosion hazard!

Failure to follow safety warnings exactly and improper servicing could result in dangerous operation, serious injury, death or property damage.

- Before servicing, disconnect all electrical power to the VarioHeat.
- When servicing controls, label all wires prior to disconnecting. Reconnect wires correctly.
- Turn off the LP gas supply at the tank.
- Allow the VarioHeat to cool.
- Verify proper operation after servicing.

▲ CAUTION

Danger of injuries due to sharp edges!

- Always wear protective gloves to avoid injuries from sharp edges during maintenance work.

There are no serviceable parts inside.

In case of a defect please contact the Truma Service Center at 1-855-558-7862 or one of our authorized service partners to replace the complete VarioHeat.

For details see www.truma.net.


Replacing the 12-volt fuse

Only a qualified service technician may perform this task. Please contact your dealership, Truma Service 1-855-558-7862 or one of our authorized Service Partners.

A defective fuse must be replaced with the same make and model of fuse.

10 AT time-lag, 5 X 20 mm. IEC 60127-2 Standard

Troubleshooting

-  Faults occurring during operation of the VarioHeat heater are displayed as an error code on the CP plus VarioHeat control panel. The potential causes for problems with the VarioHeat are described in separate operating instructions for the CP plus VarioHeat control panel.

Warning labels

The following pictures show the labels on the VarioHeat. If any of the labels are missing or unreadable, please contact the Truma Service Center on 1-855-558-7862.



Fig. 33



Fig. 36

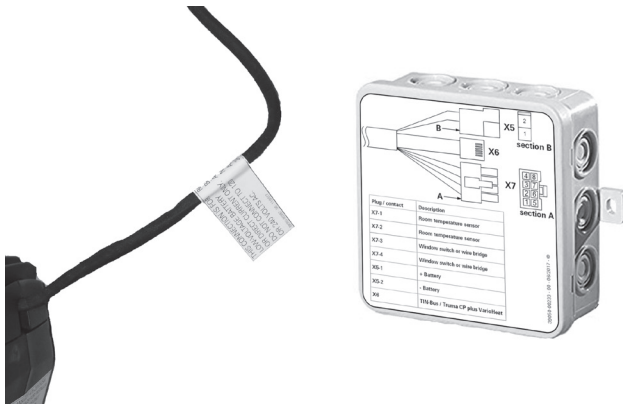


Fig. 34



Fig. 37



Fig. 35



Fig. 38

In case you encounter any problems,
please contact the Truma Service
Center at 855-558-7862 or one of our
authorized service partners. For details see
www.truma.net.

Please have the model number and serial
number (on heater's type plate) handy when
you call.

Manufacturing

Truma Gerätetechnik
GmbH & Co. KG
Wernher-von-Braun-Straße 12
D - 85640 Putzbrunn
Germany
www.truma.com

Sales

Truma Corp
825 East Jackson Blvd.
Elkhart, IN 46516
USA
Toll Free 1-855-558-7862
Fax 1-574-538-2426
service@trumacorp.com
www.truma.net