

# Operating Instructions

Water Heater

## Thermo Pro 90



**This document is valid for:**

Thermo Pro 90 STD - D

Thermo Pro 90 HA - D

Thermo Pro 90 HDD - D

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## 1 About this document

### 1.1 Purpose of the document

These operating instructions provide the user with information on the safe operation of the Thermo Pro 90.



#### NOTE

The actual availability of these functions depends on each installed heater.



#### NOTE

Carefully read through and follow the heater operating instructions and the safety information contained therein.

### 1.2 Using this document

- ✓ Before operating the Thermo Pro 90, carefully read these operating instructions as well as the operating instructions for the control element.
- ✓ Hand these operating instructions on to the following owner or user of the Thermo Pro 90.

To access further documents use one of the following options:

#### The Webasto Dealer Portal

(<https://dealers.webasto.com>)

#### Webasto Service app (for installation)

To download this app:

- ▶ scan the QR code below or



- ▶ go to:

<https://apps.apple.com/> (Apple App Store) or

<https://play.google.com/> (Google Play Store) as appropriate.

To use the Webasto Service App and access the online Webasto technical documentation, scan the QR code or the barcode on your Webasto product box.

Operating instructions are also available from the Webasto website at [www.webasto.com](http://www.webasto.com). These instructions are available in a variety of other national languages on the Webasto website.

### 1.3 Warranty and liability

Webasto shall not assume liability for defects or damages that are the result of disregarding the installation and operating instructions. This liability exclusion particularly applies to:

- Installation or maintenance by untrained personnel.
- Improper use.
- Repairs not carried out by a Webasto service workshop.

- Use of non-genuine parts.
- Conversion of the unit without permission from Webasto.
- Mechanical damage to the equipment.
- Failure to comply with service instructions.



#### DANGER

Always switch off the heater before refuelling.

### 1.4 Use of symbols and highlighting



#### DANGER

This signal word denotes a hazard with a high degree of risk which, if not avoided, may lead to death or serious injury.



#### WARNING

This signal word denotes a hazard with a moderate degree of risk which, if not avoided, may lead to minor or moderate injury.



#### CAUTION

This signal word denotes a hazard with a low degree of risk which, if not avoided, will lead to minor or moderate injury.

**NOTE**

This signal word denotes a Special Technical Feature or (if not observed) potential damage to the product.



Refers to separate documents which are enclosed or can be requested from Webasto.



Requirements for the following necessary action

**2 Safety****2.1 Intended use**

The heater works independently of the vehicle engine and is integrated in the cooling system and the electrical system of the vehicle.

The heater is approved for the following applications:

- Trucks, buses in EU vehicle classes **M**, **N** and **O**.
- Construction vehicles
- Earth-moving machinery
- Vehicles that travel only within a delimited area (e.g. airport)

**2.2 General safety information****2.2.1 Safety information on operation****DANGER**

Risk of injury from the defective unit

Do not operate a defective Thermo Pro 90 and put it out of service by removing the fuse:

- prolonged heavy smoke development.
- unusual burner noise.
- smell of fuel.
- permanent fault switch-offs with error messages (flash code).
- damaged heater.
- ▶ Contact a Webasto service workshop.

**DANGER**

Risk of explosion from explosive and flammable hazardous goods  
For hazardous material vehicles, restriction of the heater operation (ADR) is required to prevent severe burns.

- ▶ Do not operate the heater at hazardous material loading points.
- ▶ Do not operate the heater when loading and unloading hazardous materials.

**DANGER**

Danger of poisoning and suffocation due to exhaust fumes  
Make sure that:

- ▶ the casing rests only on the base after installation.
- ▶ the base seal is fitted correctly.
- ▶ Exhaust gasses are routed only to the outside.

**WARNING**

Danger of explosion and suffocation

Do not operate the heater:

- ▶ at filling stations and tank facilities.
- ▶ at locations where highly flammable gases or dust can form, or at locations where highly flammable liquids or solid materials are stored (e.g. near fuel, coal and wood dust, grain storage areas, dry grass and leaves, cardboard boxes, paper, etc.).
- ▶ in closed rooms such as garages that do not have an exhaust extraction unit, especially not with programmed heating start (time preselect or remote start).

**NOTE**

Incorrect handling

- ▶ Protect the heater against mechanical stress (e.g. dropping, impacts or knocks).
- ▶ Do not stand on the heater.
- ▶ Do not place any objects on top of the heater.
- ▶ Avoid shutting down the heater incorrectly during the after-running period. After switching off via the control element, the fan of the heater continues to run.
- ▶ Always switch off the heater via the control element.
- ▶ Do not disconnect from the power supply until the after-running period has elapsed.

## 2.2.2 Avoiding damage to property

**NOTE**

After switching off via the control element, the fan of the heater continues to run (shortened to 40 s for ADR). Switching off incorrectly, without after-run, can cause damage to the Thermo Pro 90.

- ▶ Always switch off the heater via the control element.
- ▶ The use of programmable control elements in ADR vehicles is not permitted.

**NOTE**

The heater is not approved for the purpose of directly heating the cargo area of ADR vehicles (hazardous substance transportation).

## 2.3 Regulations and legal requirements

The Thermo Pro 90 heater has been type-tested and approved in accordance with ECE-R 10 (EMC) and ECE-R 122 (heater).



Read and comply with warnings in these Installation instructions and in the Operating instructions.

## 3 Operation



### DANGER

Hazardous material vehicles (ADR) must not be switched on or off using a timer control or remote control.

### 3.1 Control elements

The Thermo Pro 90 can be fitted with various control elements:

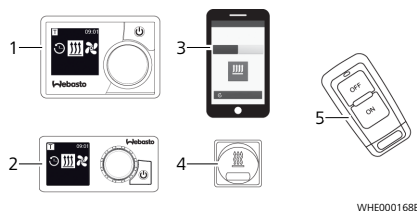


Fig. 1 Control elements

- 1 MultiControl or SmartControl
- 2 UniControl
- 3 Telephone (ThermoConnect)
- 4 Switch
- 5 T99

A combination of control elements is also possible.

The control elements confirm when the heaters are switched on. A detailed description of each control element is enclosed with the respective control element.

### Vehicles with ADR equipment

In ADR vehicles, it is not possible to set a preselection time. The display shows the remaining operation time while the heater is in operation. The time of day can be set.

### 3.2 Setting up a vehicle heating system



#### NOTE

Depending on the type of vehicle, the air-conditioning system can perform these settings automatically or partly autonomously. Ask your specialist dealer to explain the optimum settings.

1. Before switching on the heater (with the ignition on), set the vehicle heating system to "warm".
2. Set the vehicle fan to the lowest setting (lower power consumption).

### 3.3 Switch the heater on and off

The heater is switched on and off by different switch signals. Depending on the system equipment, the switch signals are produced by a switch, control element or a climate control system.



### DANGER

Danger of explosion and suffocation

For ADR vehicles: The heater must only be switched on manually via a switch. The heater must not be switched on automatically via a programmable switch.



### DANGER

Overheating possible

An emergency off switch may only be actuated in the event of danger since the heater will be switched off without after-running period.



#### NOTE

Always switch off the heater via the control element

After switching off via the control element, the heater switches to a short controlled run-on phase. Switching off incorrectly, without after-run, can cause damage to the heater.

### 3.4 Using the heater in hazardous material vehicles (ADR)

It is not possible to set a preselection time in hazardous material vehicles (ADR). The SmartControl (if present) shows how much heater operation time is left (remaining operation time).



#### NOTE

An ADR after-running period is applied in the following cases:

- the generator signal (D+, light machine) is discontinued.
- the pumping device (auxiliary drive) belonging to the vehicle is put into operation.

After the end of the ADR after-running period, the heater is in ADR locking mode.



#### NOTE

Release ADR lock:

- ▶ Put the pumping device belonging to the vehicle out of operation.
- ▶ Restart the heater by switching it off and on again using the control element.

### 3.5 Switching the heater on after automatic switch-off



#### NOTE

Possible loss of heating function  
Following an automatic switch-off, the heater may need to be manually switched back on. The heater can be restarted by switching it off and on again using the control element.

### 3.6 Use of residual heat

#### Activation

Use of residual heat is only activated when the heater is switched on. This is a fully automatic function that is activated when the engine is warm; it is used to conserve energy. Every time it is switched on, the heater checks the coolant temperature before starting the heating process. If the coolant temperature is above a limit value, residual heat utilisation is activated automatically. When use of residual heat is activated, the coolant pump for the heater and the vehicle blower are automatically actuated.

#### Deactivation

Deactivation of the use of residual heat is carried out automatically by the heater control unit.

### 4 Fuel

The heater is connected to the fuel tank of the vehicle or to a separate fuel tank.

Suitable fuels:

- Thermo Pro 90 D: diesel DIN EN 590; FAME DIN EN 14214; heating oil EL DIN 51603-1; paraffinic diesel fuel DIN EN 15940 (HVO, GTL); NATO codes F34, F35, F44, F58, F63 and F75; arctic diesel

#### 4.1 Converting from operation with summer diesel to winter diesel

- ✓ The tank is filled up with winter diesel (cold-resistant fuel). However, the fuel system for the heater may still contain residues of summer diesel.
- ▶ Switch on the heater for approx. 15 minutes (the fuel system is completely filled with cold-resistant fuel).

### 5 Coolant



Overheating caused by insufficient coolant or defective coolant flow

- ▶ Check coolant system (heater and vehicle).
- ▶ Contact a Webasto service workshop.

## 6 Combustion air



### DANGER

Danger of fire

Flammable materials or liquids in the combustion air flow.

► Keep combustion air flow clear.

## 7 Exhaust



### WARNING

Blockages

Check combustion air and exhaust system for blockages.

A blocked exhaust system or combustion air system can cause unsafe status of the heater!

## 8 Cleaning



### NOTE

Do not clean the Thermo Pro 90 with a high-pressure cleaner.

Carefully clean the heater using water and a cleaning agent suitable for cleaning vehicles.

## 9 Malfunctions

A malfunction is indicated by means of a flash code or on the control element display:

- On control elements with display, the fault codes F01 to F15 are output via the display. The fault codes F16 to F19 are shown with "- -".

- On control elements without a display (analogue), the fault code is indicated in the form of a flash pulse. The pulses are short or long. The number of long pulses corresponds to the number of the fault code. F00 is just rapid flashing.
- In event of an error occurring, check the fuse and plug connectors.
- If the fault cannot be rectified by the measure described, contact your Webasto service workshop.



### NOTE

Independent maintenance work, particularly using flammable gases or liquids such as accelerators, is forbidden.

Co de	Hex code	Possible cause	Action
F10	H06 / H07 / H86	Heater overheats	<ul style="list-style-type: none"> <li>■ Check coolant level.</li> <li>■ Switch off heater.</li> <li>■ Allow the heater to cool down.</li> <li>■ Switch on the heater.</li> </ul>
-	-	<b>Heater emits black smoke</b>	
-	-	Combustion air and exhaust gas guiding blocked	Check combustion air and exhaust gas routing for free passage.
F01	H02 / H4E / H32 / H82	No start	Switching the heater off and on
F02	H03 / H83	Flame goes out during operation	
F03	H04 / H84	On-board power supply too low / undervoltage or overvoltage	<ul style="list-style-type: none"> <li>■ Charge the vehicle battery.</li> <li>■ Switching the heater off and on.</li> </ul>

**In case of any other error messages not listed, contact the Webasto service workshop.**



## 10 Service signal

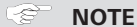
In the event of service information, the service signal is shown via the control element when the heater is switched on.

- In the case of the MultiControl / Smart-Control control element, a service symbol is displayed.
- On control elements without display: indicator lamp flashes for 60 s: on for 1 s, off for 1 s.
- ▶ Have the heater checked by a professional.

The heater can continue to be used with limited operation.

## 11 Maintenance and Safety Instructions

The year of first commissioning is marked on the heater's type label.



### NOTE

The heater:

- ▶ may only be operated with the rated voltage specified on the type label.

- Put the heater into operation every 4 weeks in order to prevent mechanical parts from seizing.
- At the beginning of the heating period, have the heater checked by a professional.



### WARNING

The heater may not:

- ▶ be exposed to storage temperatures above +80°C (+120°C excluding control unit). If this temperature is exceeded, the electronics can be permanently damaged.
- ▶ be operated unless the water in the heating circuit contains at least 33% quality antifreeze.

## 12 Disposal end of life

The Thermo Pro 90 must not be disposed of in domestic waste.

- Observe the regional regulations for disposal of electronic products.

## 13 Service and customer services

The device is registered during installation by the Webasto service workshop. You will receive the registration document.

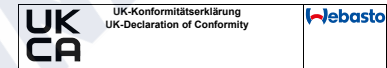
Pass the registration document on to the next owner or user of the device.

Do you have any technical questions or problem with the device?

National phone numbers of our representatives are provided on:

<https://www.webasto-group.com/en/the-company/locations-worldwide/>

## 14 Declaration of Conformity



Hersteller  
**Manufacturer**  
 Webasto Thermo & Comfort SE  
 Friedrichshaller Straße 9  
 82205 Gilling  
 Germany  
 Für die Verwendung des Webasto Heizgerätesystems  
 For the use of the Webasto heating system


Thermo Pro 90	
Richtlinie	Ausgewählte Normen
Directive	Designated Standards
Supply of Machinery (Safety) Regulations 2008	EN ISO 13849-1:2008-12 EN ISO 17474:2010 EN ISO 12100:2011 DIN EN 61310-2:2008-09 DIN EN 60335-1:2012-10
Electromagnetic Compatibility Regulations 2016	DIN EN 61000-6-2:2006 DIN EN 61000-6-3:2007 DIN EN 13309:2010 EN ISO 14982:2009 EN ISO 13786:2006
RoHS Regulations 2012	

Befolgen Sie die Einbauanleitung und die Bedienungsanleitung  
 Follow the installation instruction and operating instruction  
 Ort und Datum der Ausstellung  
 Place and Date of issue  
 Gilling, den 18.06.2021  
 i.V. T. Zwickler  
 VP BLM FCH  
 BLM ECHS FH CS Interface  
 Webasto Thermo & Comfort SE  
 1316605  
 1316604  
 1316605  
 1316604  
 J. Baiz  
 Product Conformity & Regul. Mgr.  
 Webasto Roof & Components SE

Original in deutscher Fassung.  
 Original in German version.  
 Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller.  
 This declaration of conformity is issued under the sole responsibility of the manufacturer.

# 15 Type approval

## 15.1 Thermo Pro 90 type approval



**Kraftfahrt-Bundesamt**  
DE-24932 Flensburg

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E1

**MITTEILUNG**

ausgestellt von:  
**Kraftfahrt-Bundesamt**

die Erweiterung der Genehmigung für einen Typ eines Bauteils nach der Regelung Nr. 122

**COMMUNICATION**

issued by:  
**Kraftfahrt-Bundesamt**

approval extended of  
a component type pursuant to Regulation No. 122

Nummer der Genehmigung: E1122R00030320\*05  
Approval No.

Grund (Gründe) für die Erweiterung (gegebenenfalls):  
Reason(s) of extension (if applicable):  
technische Änderungen  
technical modifications


redaktionelle Änderungen  
editorial modifications

Abschnitt I  
**Section I**

Allgemeines  
General

1.1 Marke (Firmenname des Herstellers):  
Make (trade name of manufacturer):  
Webasto Thermo & Comfort SE

1.2 Typ:  
Type:  
Thermo Pro 90



**Kraftfahrt-Bundesamt**  
DE-24932 Flensburg

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2

Nummer der Genehmigung: E1122R00030320\*05  
Approval No.:

1.2.1 Handelsbezeichnungen)  
General commercial description(s):  
Thermo Pro 90

1.3 Merkmale zur Typidentifizierung, falls an der Einrichtung vorhanden:  
Means of identification of type, if marked on the device:  
Typbezeichnung  
Type designation

1.3.1 Stelle, an der diese Merkmale angebracht sind:  
Location of that marking:  
auf dem Gehäuse und nach dem Einbau zusätzlich am Fahrzeug  
on the housing and after the installation additional on the vehicle

1.4 Name und Anschrift des Herstellers:  
Name and address of manufacturer:  
Webasto Thermo & Comfort SE  
DE-82205 Gillingham


1.5 Stelle, an der das ECE-Genehmigungszeichen angebracht ist:  
Location of the ECE approval mark:  
auf dem Gehäuse  
on the housing

1.6 Anschrift(en) der Fertigungsanlage(n):  
Address(es) of assembly plant(s):  
Webasto Thermo & Comfort SE  
(Werk Neubrandenburg)  
DE-17033 Neubrandenburg

Abschnitt II  
**Section II**

1. Zusätzliche Angaben (falls zutreffend):  
Additional information (where applicable):  
entfällt  
not applicable

2. Technischer Dienst, der die Prüfungen durchführt:  
Technical service responsible for carrying out the tests:  
DEKRA Automobil Test Center der DEKRA Automobil GmbH  
DE-01998 Kletitzsch



**Kraftfahrt-Bundesamt**  
DE-24932 Flensburg

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3

Nummer der Genehmigung: E1122R00030320\*05  
Approval No.:

3. Datum des Gutachtens:  
Date of test report:  
10.08.2018



4. Nummer des Gutachtens  
Number of test report:  
201029146 (E. Erweiterung)

5. Gegebenenfalls Bemerkungen:  
Remarks (if any):  
entfällt  
not applicable

6. Ort:  
Place:  
DE-24932 Flensburg


7. Datum:  
Date:  
09.08.2018

8. Unterschrift  
Signature  
Im Auftrag





(Jörg Burgkhardt)

# 15.2 Thermo Pro 90 HDD type approval

ECE R122 E1 00 0443 

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**Kraftfahrt-Bundesamt**  
DE-54932 Flensburg

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**MITTEILUNG**  
ausgestellt von:  
Kraftfahrt-Bundesamt

über die Erweiterung einer Genehmigung für einen Typ eines Bauteils nach der Regelung Nr. 122 einschließlich Änderung Nr. 00 (Ergänzung 00)

**COMMUNICATION**  
issued by:  
Kraftfahrt-Bundesamt

concerning the extension of an approval of a component type pursuant to Regulation No. 122 including amendment No. 00 (supplement 00)

Genehmigungsnummer: E1\*122R00:00\*0443\*03  
Approval number:

Grund (Zusatz) für die Erweiterung (ergänzenfalls):  
Reason(s) of extension (if any):  
Technische Änderungen  
Technical modifications

Abschnitt 1  
Section 1

Allgemeines  
General:

- 1.1. Marke (Firmenname des Herstellers):  
Make (trade name of manufacturer):  
Webasto Thermo & Comfort SE
- 1.2. Typ:  
Type:  
Thermo Pro 90 HDD
- 1.3. Merkmale zur Typifizierung, falls an der Einrichtung vorhanden:  
Means of identification of type, if marked on the device:  
Typbezeichnung  
Type designation

ECE R122 E1 00 0443 

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**Kraftfahrt-Bundesamt**  
DE-54932 Flensburg

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2

Genehmigungsnummer: E1\*122R00:00\*0443\*03  
Approval number:


- 1.2.1. Stelle, an der diese Merkmale angebracht sind:  
Location of label marking:  
Auf dem Gehäuse erst nach dem Einbau zusätzlich am Fahrzeug  
On the housing and after the installation additional on the vehicle
- 1.4. Name und Anschrift des Herstellers:  
Name and address of manufacturer:  
Webasto Thermo & Comfort SE  
DE-54932 Flensburg
- 1.5. Stelle, an der das ECE-Genehmigungszeichen angebracht ist:  
Location of the ECE approval mark:  
Auf dem Gehäuse  
On the housing
- 1.6. Anschrift(en) der Fertigungsstätte(n):  
Address(es) of assembly plant(s):  
Webasto Thermo & Comfort SE (Werk Neubrandenburg)  
DE-17103 Neubrandenburg

Abschnitt II  
Section II

1. Zusätzliche Angaben (ergänzenfalls):  
Additional information (if any):  
Entfällt  
Not applicable
2. Technischer Dienst, der die Prüfung durchführt:  
Technical service responsible for carrying out the tests:  
DEXRA Automobil Test Center der DEXRA Automobil GmbH  
DE-61989 Kiefershausen
3. Datum des Gutachtens:  
Date of test report:  
09.06.2021
4. Nummer des Gutachtens:  
Number of test report:  
202102194 (1. Erweiterung)
5. Bemerkungen (ergänzenfalls):  
Remarks (if any):  
Entfällt  
Not applicable

ECE R122 E1 00 0443 

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**Kraftfahrt-Bundesamt**  
DE-54932 Flensburg

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3

Genehmigungsnummer: E1\*122R00:00\*0443\*03  
Approval number:

6. Die Genehmigung wird erweitert:  
Approval is extended
7. Ort:  
DE-54932 Flensburg
8. Datum:  
28.06.2021
9. Unterschrift:  
Im Auftrag

  
  
 Jörg Burghardt

This is a translation from the original German installation instructions. The German language is binding.  
To request this documentation in another language, please locate and contact your local Webasto dealer. You can find your nearest dealer at:

