

## Operating instructions



atmoMAG

MAG ...4/1 G

AT, BE (de), CH (de), DE

**Publisher/manufacturer**

**Vaillant GmbH**

Berghauser Str. 40 ■ D-42859 Remscheid  
Tel. +49 21 91 18-0 ■ Fax +49 21 91 18-2810  
info@vaillant.de ■ www.vaillant.de



# Contents

## Contents

<b>1</b>	<b>Safety .....</b>	<b>3</b>
1.1	Action-related warnings .....	3
1.2	Intended use .....	3
1.3	General safety information .....	3
<b>2</b>	<b>Notes on the documentation .....</b>	<b>5</b>
2.1	Observing other applicable documents .....	5
2.2	Storing documents .....	5
2.3	Validity of the instructions .....	5
<b>3</b>	<b>Product description .....</b>	<b>5</b>
3.1	Information on the data plate .....	5
3.2	Control elements .....	5
3.3	LED indicator light .....	6
3.4	CE label .....	6
<b>4</b>	<b>Operation .....</b>	<b>6</b>
4.1	Cabinet-type casing .....	6
4.2	Preparing for start-up .....	6
4.3	Starting up the product .....	6
4.4	Switching on the product .....	6
4.5	Drawing hot water .....	6
4.6	Setting the domestic hot water temperature .....	7
4.7	Modulation .....	7
<b>5</b>	<b>Troubleshooting .....</b>	<b>7</b>
5.1	Detecting and eliminating faults .....	7
5.2	Eliminating faults in the product .....	7
<b>6</b>	<b>Care and maintenance .....</b>	<b>7</b>
6.1	Maintenance .....	7
6.2	Caring for the product .....	7
<b>7</b>	<b>Decommissioning .....</b>	<b>8</b>
7.1	Temporarily decommissioning the product .....	8
7.2	Having the product permanently decommissioned .....	8
7.3	What to do if there is a risk of frost .....	8
<b>8</b>	<b>Recycling and disposal .....</b>	<b>8</b>
<b>9</b>	<b>Guarantee and customer service .....</b>	<b>8</b>
9.1	Guarantee .....	8
9.2	Customer service .....	9
	<b>Appendix .....</b>	<b>10</b>
<b>A</b>	<b>Troubleshooting .....</b>	<b>10</b>

## 1 Safety

### 1.1 Action-related warnings

#### Classification of action-related warnings

The action-related warnings are classified in accordance with the severity of the possible danger using the following warning signs and signal words:

#### Warning symbols and signal words



#### **Danger!**

Imminent danger to life or risk of severe personal injury



#### **Danger!**

Risk of death from electric shock



#### **Warning.**

Risk of minor personal injury



#### **Caution.**

Risk of material or environmental damage

### 1.2 Intended use

There is a risk of injury or death to the user or others, or of damage to the product and other property in the event of improper use or use for which it is not intended.

The products are gas-fired instantaneous water heaters and, as such, are intended for hot water generation.

Intended use includes the following:

- observance of the operating instructions included for the product and any other system components
- compliance with all inspection and maintenance conditions listed in the instructions.

This product can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the product in a safe way and understand the hazards involved. Children must not play with the product. Cleaning and user maintenance work must not be carried out by children unless they are supervised.

Any other use that is not specified in these instructions, or use beyond that specified in this

document shall be considered improper use. Any direct use in industrial or commercial processes is also deemed to be improper.

#### **Caution.**

Improper use of any kind is prohibited.

### 1.3 General safety information

#### 1.3.1 Installation by competent persons only

**Applicability:** Except Belgium

The installation, inspection, maintenance and repair of the product, as well as the gas settings and gas conversions, must only be carried out by a competent person.

#### 1.3.2 Danger caused by improper operation

Improper operation may present a danger to you and others, and cause material damage.

- ▶ Carefully read the enclosed instructions and all other applicable documents, particularly the "Safety" section and the warnings.
- ▶ Only carry out the activities for which instructions are provided in these operating instructions.

#### 1.3.3 Risk of death from escaping gas

What to do if you smell gas in the building:

- ▶ Avoid rooms that smell of gas.
- ▶ If possible, open doors and windows fully and ensure adequate ventilation.
- ▶ Do not use naked flames (e.g. lighters, matches).
- ▶ Do not smoke.
- ▶ Do not use any electrical switches, mains plugs, doorbells, telephones or other communication systems in the building.
- ▶ Close the emergency control valve or the main isolator.
- ▶ If possible, close the gas isolator cock on the product.
- ▶ Warn other occupants in the building by yelling or banging on doors or walls.
- ▶ Leave the building immediately and ensure that others do not enter the building.
- ▶ Alert the police and fire brigade as soon as you are outside the building.

## 1 Safety



- ▶ Use a telephone outside the building to inform the emergency service department of the gas supply company.

### 1.3.4 Risk of death due to blocked or leaking flue pipework

What to do if you smell flue gas in the property:

- ▶ Open all accessible doors and windows fully to provide ventilation.
- ▶ Switch off the product.
- ▶ Inform a competent person.

### 1.3.5 Risk of death due to explosive and flammable materials

- ▶ Do not use the product in storage rooms that contain explosive or flammable substances (such as petrol, paper or paint).

### 1.3.6 Risk of death due to changes to the product or the product environment

- ▶ Never remove, bridge or block the safety devices.
- ▶ Do not tamper with any of the safety devices.
- ▶ Do not damage or remove any tamper-proof seals on components.
- ▶ Do not make any changes:
  - The product itself
  - to the gas, supply air, water and electricity supply lines
  - to the entire flue system
  - to the expansion relief valve
  - to the drain pipework
  - to constructional conditions that may affect the operational reliability of the product

### 1.3.7 Risk of poisoning caused by insufficient combustion air supply

**Conditions:** Open-flued operation

- ▶ Ensure that there is a sufficient combustion air supply.

### 1.3.8 Risk of corrosion damage due to unsuitable combustion and room air

Sprays, solvents, chlorinated cleaning agents, paint, adhesives, ammonia compounds, dust or similar substances may lead

to corrosion on the product and in the air/flue pipe.

- ▶ Ensure that the combustion air supply is always free of fluorine, chlorine, sulphur, dust, etc.
- ▶ Ensure that no chemical substances are stored at the installation site.

### 1.3.9 Risk of injury and material damage due to maintenance and repairs carried out incorrectly or not carried out at all

- ▶ Never attempt to carry out maintenance work or repairs on your product yourself.
- ▶ Faults and damage should be immediately rectified by a competent person.
- ▶ Adhere to the maintenance intervals specified.

### 1.3.10 Risk of being burned or scalded by hot parts

Parts of the product become hot during operation.

- ▶ Only touch the product and its parts once they have cooled down.

### 1.3.11 Risk of death due to lack of safety devices

A lack of safety devices (e.g. expansion relief valve, expansion vessel) can lead to potentially fatal scalding and other injuries, e.g. due to explosions.

- ▶ Ask a competent person to explain how the safety devices work and where they are located.



## 2 Notes on the documentation

### 2.1 Observing other applicable documents

- You must observe all operating instructions enclosed with the system components.

### 2.2 Storing documents

- Keep this manual and all other applicable documents safe for future use.

### 2.3 Validity of the instructions

These instructions apply only to:

#### Product article number

**Applicability:** Germany

OR Belgium

OR Switzerland

OR Austria

MAG 114/1 G(E-BE/FR)	Belgium	0010022553
MAG 114/1 G(H-DACH)	Germany	0010022560
	Austria	0010022560
MAG 114/1 G(LL-DE)	Germany	0010022561
MAG 114/1 G(P-BE/FR)	Belgium	0010022552
MAG 114/1 G(P-CH)	Switzerland	0010022568
MAG 144/1 G(E-BE)	Belgium	0010022548
MAG 144/1 G(H-AT)	Austria	0010022525
MAG 144/1 G(H-DE/CH)	Germany	0010022566
	Switzerland	0010022566
MAG 144/1 G(LL-DE)	Germany	0010022567
MAG 144/1 G(P-BE)	Belgium	0010022550
MAG 144/1 G(P-CH)	Switzerland	0010022569

## 3 Product description

### 3.1 Information on the data plate

The data plate is mounted at the front of the down-draught diverter, under the product casing, at the factory.

**Applicability:** Germany

OR Austria

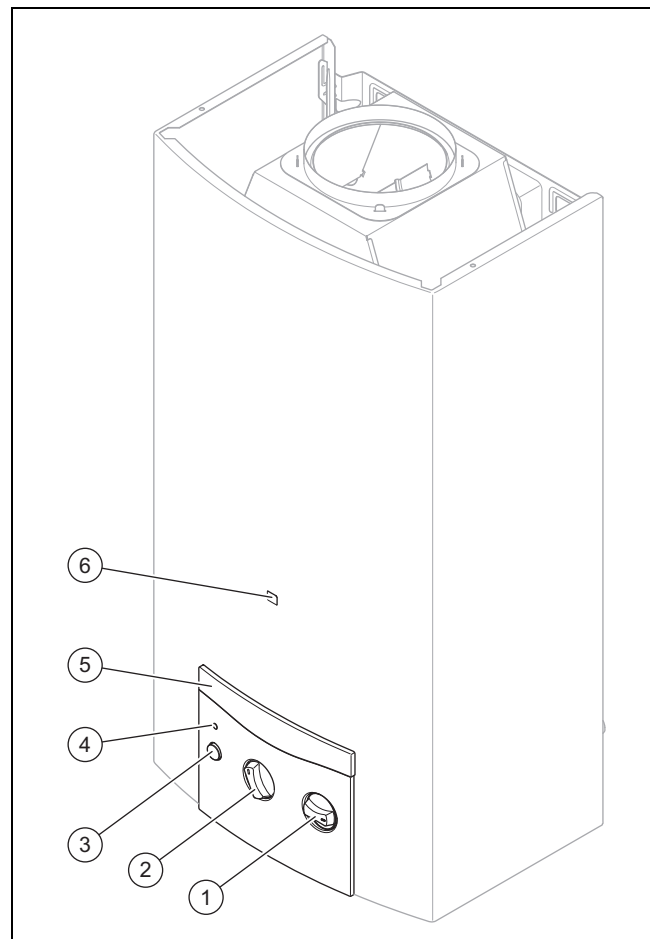
OR Belgium

OR Switzerland

Information on the data plate	Meaning
MAG	Product category
11/14	Power in l/min
-4/1	Chimney connection/product generation
G	With electrical ignition and generator
atmoMAG	Product series
Type B11 BS	Approved unit type

Information on the data plate	Meaning
Cat II	Single-gas unit Multiple gas type boiler
2ELL 3P (DE) 2H 3P (AT, CH) 2E+ 3P (BE)	Gas boiler category
G20/25/31 (DE) G20/31 (AT, CH) G20/25/31 (BE)	Permitted gas types with connection pressures
P <sub>nom.</sub>	Maximum heat output
P <sub>min.</sub>	Minimum heat output
Q <sub>nom.</sub>	Maximum heat input
Q <sub>min.</sub>	Minimum heat input
P <sub>w max.</sub>	Maximum permissible water pressure
Serial number	7th to 16th digit = product article number

### 3.2 Control elements



- |   |   |   |                     |
|---|---|---|---------------------|
| 1 | Flow rate selector/temperature selector     | 3 | Main switch         |
| 2 | Rotary power switch (10-stage from 50-100%) | 4 | LED indicator light |
|   |   | 5 | Control panel       |
|   |   | 6 | Sight glass         |

## 4 Operation

### 3.3 LED indicator light

Function	Meaning
LED indicator light lights up (blue)	Burner is in operation
LED indicator light flashes (red)	Fault
LED indicator light flashes (blue)	The generator cannot create sufficient voltage to start up the product.

### 3.4 CE label



The CE label shows that the products comply with the basic requirements of the applicable directives as stated on the identification plate.

The declaration of conformity can be viewed at the manufacturer's site.

## 4 Operation



#### Warning.

##### Risk of being scalded by hot water.

Incorrectly set hot water temperatures and hot water in the lines may lead to scalding.

- ▶ Check the hot water temperature with your hand.



#### Caution.

##### Risk of material damage caused by an interrupted water supply.

- ▶ Ensure that the water supply cannot be interrupted.

### 4.1 Cabinet-type casing

Enclosing the product in cabinet-type casing requires compliance with the applicable design instructions.

If you require cabinet-type casing for your product, consult a heating specialist company. Never, under any circumstances, enclose the product yourself.

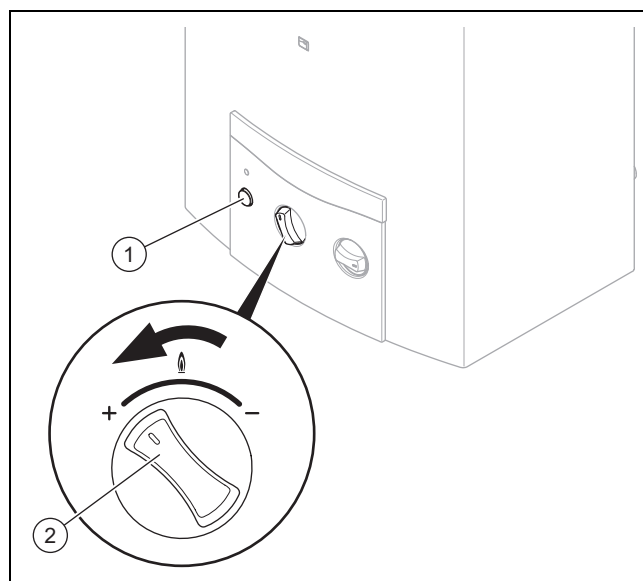
### 4.2 Preparing for start-up

1. Ask the competent person who installed the product to explain to you where these isolator devices are located and how to handle them.
2. Open the gas isolator cock fully.
3. Open the cold water stop valve that is set on-site.

### 4.3 Starting up the product

- ▶ Only start up the product once the casing has been completely closed.

### 4.4 Switching on the product



1. Press the main switch (1) so that it clicks into place.
2. Turn the rotary power switch (2) to the required level.
  - ◁ The product is ready for operation.



#### Note

If you notice leaks in the hot water pipes between the product and the draw-off points, you must immediately close the cold-water isolation valve that was set on-site.

Have the leaks eliminated by a competent person.

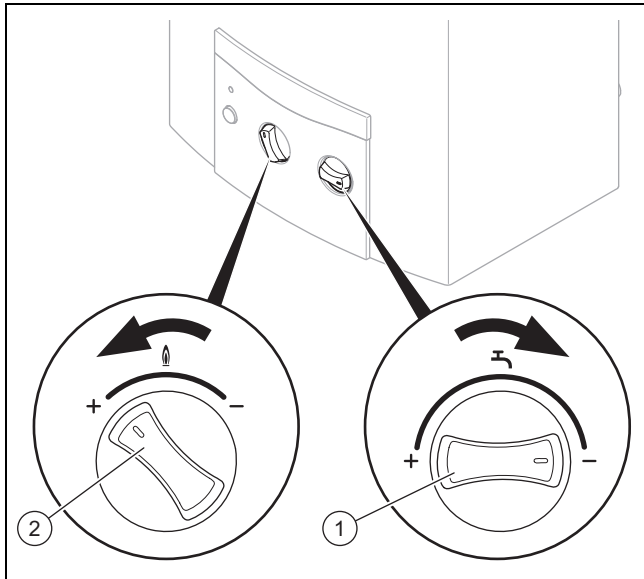
### 4.5 Drawing hot water

1. Open the hot water valve at the draw-off point.
  - ◁ The product automatically starts up.
  - ◁ When the product is operating, the LED indicator lights up blue.

**Conditions:** No hot water is supplied.

- ▶ Ensure that any stop valve that is installed upstream of the hot water valve is completely open.
  - ▶ Ensure that the product's main switch has clicked into place.
  - ▶ Remove the filter that is installed in the hot water valve and check the filter for dirt and limescale.
  - ▶ Use a descaling solution to remove the limescale from the filter.
2. Close the hot water valve on the draw-off point.
    - ◁ The product automatically shuts down.

## 4.6 Setting the domestic hot water temperature



1. Turn the temperature selector **(1)** clockwise to decrease the domestic hot water flow rate.
  - The domestic hot water temperature is thereby affected (increased).
2. Turn the rotary power switch **(2)** anti-clockwise to increase the burner output.
  - The domestic hot water temperature is thereby increased.
3. Turn the temperature selector **(1)** anti-clockwise to increase the domestic hot water flow rate.
  - The domestic hot water temperature is thereby affected (reduced).
4. Turn the rotary power switch **(2)** clockwise to decrease the burner output.
  - The domestic hot water temperature is thereby reduced.



### Note

If you increase the domestic hot water flow rate and turn the rotary power switch anti-clockwise, the gas consumption is increased.

## 4.7 Modulation

The burner output (gas flow rate) is continually and automatically matched to the domestic hot water flow rate in the range between the preselected setting on the rotary power switch and the product's lowest possible output (approx. 35%). As a result, the domestic hot water temperature is kept at a constant.

## 5 Troubleshooting

### 5.1 Detecting and eliminating faults

- ▶ A fault is visually displayed by the LED indicator light (flashing red). As the end user, you must only eliminate faults in accordance with the table that is contained in the appendix.
- ▶ If the product still does not function without problems after the checks have been carried out using the table, contact your competent person to rectify the problem.

### 5.2 Eliminating faults in the product

If the product was blocked by a safety device, wait approx. 10 minutes and then clear the product of any faults. The product can only automatically ignite again after the faults are cleared.

- ▶ Reset the product as follows:
  - Close the water tap.
  - Open the water tap again.
  - Do **not** press the main switch.
- ▶ Alternatively, you can clear the product of any faults as follows:
  - Leave the water tap open.
  - Press the main switch twice in order to switch the product off and on again.
- ▶ If resetting does not work or the product is repeatedly blocked by a safety device, contact a competent person to have the fault eliminated.
- ▶ Only start the product up again once the fault has been eliminated by a competent person.

## 6 Care and maintenance

### 6.1 Maintenance

An annual inspection and biennial maintenance of the product carried out by a competent person is a prerequisite for ensuring that the product is permanently ready and safe for operation, reliable, and has a long service life. The inspection may require maintenance to be carried out earlier, depending on the results.

### 6.2 Caring for the product

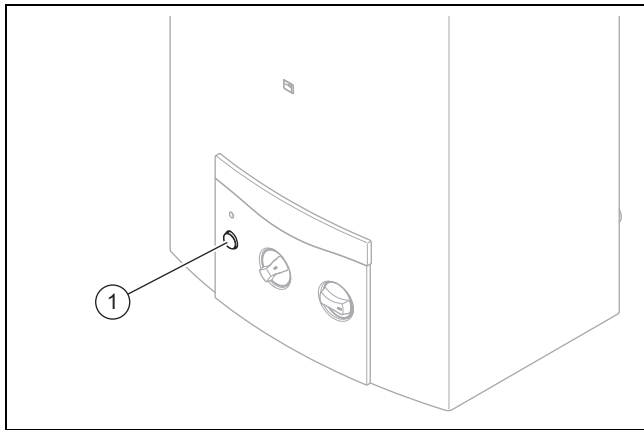
- ▶ Clean the casing with a damp cloth and a little solvent-free soap.
- ▶ Do not use sprays, scouring agents, detergents, solvents or cleaning agents that contain chlorine.



## 7 Decommissioning

### 7 Decommissioning

#### 7.1 Temporarily decommissioning the product

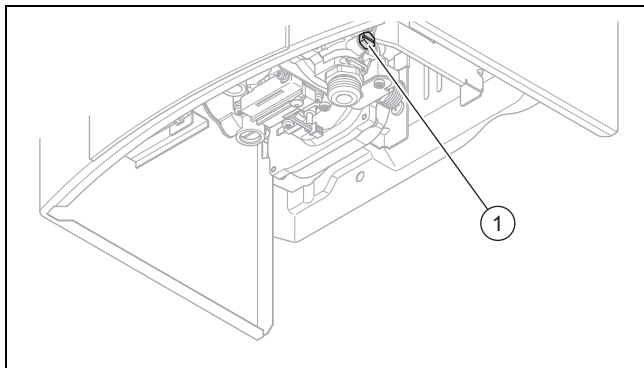


- ▶ Press the main switch (1).
- ▶ Close the gas stopcock that was set on-site.
  - ◁ The gas supply to the burner on the gas-fired instantaneous water heater is now blocked.
- ▶ Close the cold-water isolation valve that is set on-site.

#### 7.2 Having the product permanently decommissioned

- ▶ Have a competent person permanently decommission the product.

#### 7.3 What to do if there is a risk of frost



If there is a risk of frost, it is necessary to protect the product against freezing. To do this, you must drain your gas-fired instantaneous water heater.

- ▶ Temporarily decommission (→ Page 8) the product.
- ▶ Unscrew the drain screw (1).
- ▶ Open all of the hot water valves that are connected to the product so that the product and line drain until they are completely empty.
- ▶ Leave the hot water valves and the drain screw open until the product is started up again when the risk of frost has passed.
- ▶ When subsequently filling the product, only start it up again once the water that flows out of the opened hot water valves has no bubbles after the cold water stop valve that is set on-site is opened.

### 8 Recycling and disposal

- ▶ The competent person who installed your product is responsible for the disposal of the packaging.



If the product is labelled with this mark:

- ▶ In this case, do not dispose of the product with the household waste.
- ▶ Instead, hand in the product to a collection centre for waste electrical or electronic equipment.



If the product contains batteries that are labelled with this mark, these batteries may contain substances that are hazardous to human health and the environment.

- ▶ In this case, dispose of the batteries at a collection point for batteries.

### 9 Guarantee and customer service

#### 9.1 Guarantee

Applicability: Belgium

Die N.V. VAILLANT gewährleistet eine Garantie von 2 Jahren auf alle Material- und Konstruktionsfehler ihrer Produkte ab dem Rechnungsdatum.

Die Garantie wird nur gewährt, wenn folgende Voraussetzungen erfüllt sind:

1. Das Gerät muss von einem qualifizierten Fachmann installiert worden sein. Dieser ist dafür verantwortlich, dass alle geltenden Normen und Richtlinien bei der Installation beachtet wurden.
2. Während der Garantiezeit ist nur der Vaillant Werkskundendienst autorisiert, Reparaturen oder Veränderungen am Gerät vorzunehmen. Die Werksgarantie erlischt, wenn in das Gerät Teile eingebaut werden, die nicht von Vaillant zugelassen sind.
3. Damit die Garantie wirksam werden kann, muss die Garantiekarte vollständig und ordnungsgemäß ausgefüllt, unterschrieben und ausreichend frankiert spätestens fünfzehn Tage nach der Installation an uns zurückgeschickt werden.

Während der Garantiezeit an dem Gerät festgestellte Material- oder Fabrikationsfehler werden von unserem Werkskundendienst kostenlos behoben. Für Fehler, die nicht auf den genannten Ursachen beruhen, z. B. Fehler aufgrund unsachgemäßer Installation oder vorschriftswidriger Behandlung, bei Verstoß gegen die geltenden Normen und Richtlinien zur Installation, zum Aufstellraum oder zur Belüftung, bei Überlastung, Frosteinwirkung oder normalem Verschleiß oder bei Gewalteinwirkung übernehmen wir keine Haftung. Wenn eine Rechnung gemäß den allgemeinen Bedingungen des Werkvertrags ausgestellt wird, wird diese ohne vorherige schriftliche Vereinbarung mit Dritten (z. B. Eigentümer, Vermieter, Verwalter etc.) an den Auftraggeber oder/und den Benutzer der Anlage gerichtet; dieser übernimmt die Zahlungsverpflichtung. Der Rechnungsbetrag ist dem Techniker des Werkskundendienstes, der die Leistung erbracht hat, zu erstatten. Die Reparatur oder der Austausch von Teilen während der Garantie verlängert die Garantiezeit nicht. Nicht



umfasst von der Werksgarantie sind Ansprüche, die über die kostenlose Fehlerbeseitigung hinausgehen, wie z. B. Ansprüche auf Schadenersatz. Gerichtsstand ist der Sitz unseres Unternehmens. Um alle Funktionen des Vaillant Geräts auf Dauer sicherzustellen und um den zugelassenen Serienzustand nicht zu verändern, dürfen bei Wartungs- und Instandhaltungsarbeiten nur Original Vaillant Ersatzteile verwendet werden!

**Applicability:** Switzerland

Werksgarantie gewähren wir nur bei Installation durch einen anerkannten Fachhandwerksbetrieb. Dem Eigentümer des Geräts räumen wir eine Werksgarantie entsprechend den landesspezifischen Vaillant Geschäftsbedingungen und den entsprechend abgeschlossenen Wartungsverträgen ein. Garantiearbeiten werden grundsätzlich nur von unserem Werkskundendienst ausgeführt.

**Applicability:** Germany

OR Austria

Herstellergarantie gewähren wir nur bei Installation durch einen anerkannten Fachhandwerksbetrieb.

Dem Eigentümer des Geräts räumen wir diese Herstellergarantie entsprechend den Vaillant Garantiebedingungen ein. Garantiearbeiten werden grundsätzlich nur von unserem Kundendienst ausgeführt. Wir können Ihnen daher etwaige Kosten, die Ihnen bei der Durchführung von Arbeiten an dem Gerät während der Garantiezeit entstehen, nur dann erstatten, falls wir Ihnen einen entsprechenden Auftrag erteilt haben und es sich um einen Garantiefall handelt.

### 9.2 Customer service

**Applicability:** Austria

Vaillant Group Austria GmbH  
Clemens-Holzmeister-Straße 6  
1100 Wien  
**Österreich**

E-Mail Kundendienst: [termin@vaillant.at](mailto:termin@vaillant.at)

Internet Kundendienst: <http://www.vaillant.at/werkskundendienst/>

Telefon: 05 7050-2100 (zum Regionaltarif österreichweit, bei Anrufen aus dem Mobilfunknetz ggf. abweichende Tarife - nähere Information erhalten Sie bei Ihrem Mobilnetzbetreiber)

Der flächendeckende Kundendienst für ganz Österreich ist täglich von 0 bis 24 Uhr erreichbar. Vaillant Kundendienst-techniker sind 365 Tage für Sie unterwegs, sonn- und feiertags, österreichweit.

**Applicability:** Belgium

N.V. Vaillant S.A.  
Golden Hopestraat 15  
B-1620 Drogenbos  
**Belgien, Belgique, België**

Kundendienst / Service après-vente / Klantendienst:  
2 3349352

**Applicability:** Switzerland

Vaillant GmbH (Schweiz, Suisse, Svizzera)  
Riedstrasse 12

CH-8953 Dietikon

**Schweiz, Svizzera, Suisse**

Kundendienst: 044 74429-29

Techn. Vertriebssupport: 044 74429-19

**Applicability:** Germany

Auftragsannahme Vaillant Kundendienst: 021 91 5767901

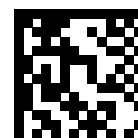
# Appendix

## Appendix

### A Troubleshooting

Symptom	Possible cause	Measure
The product does not work. The LED does not light up.	The water pressure is too low.	<ol style="list-style-type: none"> <li>1. Secure the gas supply.</li> <li>2. Ensure that the cold-water isolation valve is open.</li> <li>3. If the fault persists, have this eliminated by a competent person.</li> </ol>
The product cannot be started up. The LED flashes red for up to ten minutes after water is drawn.	The gas supply is interrupted.	<ol style="list-style-type: none"> <li>1. Secure the gas supply.</li> <li>2. For liquefied petroleum gas: Replace an empty gas cylinder with a full one.</li> <li>3. Ensure that the isolation valve on the gas connection is open.</li> </ol>
	There is air in the gas supply line.	<ol style="list-style-type: none"> <li>1. Open and close the water tap several times in order to remove air from the gas supply.</li> <li>2. If the fault persists, have this eliminated by a competent person.</li> </ol>
	The water pressure is too low.	<ol style="list-style-type: none"> <li>1. Secure the gas supply.</li> <li>2. Ensure that the cold-water isolation valve is open.</li> <li>3. If the fault persists, have this eliminated by a competent person.</li> </ol>
	Fault in the ignition device	► Have the fault eliminated by a competent person.
The product switches off during operation. The LED flashes red.	The water pressure is too low.	<ol style="list-style-type: none"> <li>1. Secure the gas supply.</li> <li>2. Ensure that the cold-water isolation valve is open.</li> <li>3. If the fault persists, have this eliminated by a competent person.</li> </ol>
	The gas supply is interrupted.	<ol style="list-style-type: none"> <li>1. Secure the gas supply.</li> <li>2. For liquefied petroleum gas: Replace an empty gas cylinder with a full one.</li> <li>3. Ensure that the isolation valve on the gas connection is open.</li> </ol>
	There is air in the gas supply line.	<ol style="list-style-type: none"> <li>1. Open and close the water tap several times in order to remove air from the gas supply.</li> <li>2. If the fault persists, have this eliminated by a competent person.</li> </ol>
	The product was switched off by a safety device.	► Wait for 10 minutes and then start up the product again. If the fault persists, have it eliminated by a competent person.





0020271930\_00

0020271930\_00 ■ 06.04.2018

### **Supplier**

#### **Vaillant Deutschland GmbH & Co.KG**

Berghauser Str. 40 ■ D-42859 Remscheid  
Telefon 021 91 18-0 ■ Telefax 021 91 18-2810  
Auftragsannahme Vaillant Kundendienst 021 91 5767901  
info@vaillant.de ■ www.vaillant.de

#### **Vaillant Group Austria GmbH**

Clemens-Holzmeister-Straße 6 ■ 1100 Wien  
Telefon 05 7050 ■ Telefax 05 7050-1199  
Telefon 05 7050-2100 (zum Regionaltarif österreichweit, bei Anrufen aus dem Mobilfunknetz ggf. abweichende Tarife - nähere Information erhalten Sie bei Ihrem Mobilnetzbetreiber)  
info@vaillant.at ■ termin@vaillant.at  
www.vaillant.at ■ www.vaillant.at/werkskundendienst/

#### **N.V. Vaillant S.A.**

Golden Hopestraat 15 ■ B-1620 Drogenbos  
Tel. 2 3349300 ■ Fax 2 3349319  
Kundendienst / Service après-vente / Klantendienst 2 3349352  
info@vaillant.be ■ www.vaillant.be

#### **Vaillant GmbH (Schweiz, Suisse, Svizzera)**

Riedstrasse 12 ■ CH-8953 Dietikon  
Tel. 044 74429-29 ■ Fax 044 74429-28  
Kundendienst 044 74429-29 ■ Techn. Vertriebssupport 044 74429-19  
info@vaillant.ch ■ www.vaillant.ch

© These instructions, or parts thereof, are protected by copyright and may be reproduced or distributed only with the manufacturer's written consent.

We reserve the right to make technical changes.