# AQUWA 12

GAS FUELED HERMETIC WATER HEATER USER MANUAL



## **AquWa** 12



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### 1. DEAR WARMHAUS CUSTOMER

We congratulate you for choosing the Warmhaus water heater to maintain your heating and hot domestic water comfort for long years and thank you for your trust. Warmhaus water heaters, manufactured based on advanced technology in accordance with EU standards, are also being imported to many countries. You can benefit from our Authorized Technical Service network that has professional competence certificate for all kinds of ordinary maintenance needs for this product that is manufactured with intensive and meticulous efforts.

Our Authorized Services guarantee that the performance of your device will be maintained as they will always provide original spare parts service. Please read this manual carefully and keep it as a reference so that you can use the water heater economically, comfortably, and efficiently.

For efficient use, we recommend that you have it installed by a dealer approved by the local gas authority with experience and competence in installation

#### **1.1. GENERAL WARNINGS**

The manual is an inseparable and integral part of the product and must be delivered to the new user when the product is transferred. This manual should be protected and used carefully as well as readily available when necessary as it contains important information on installation.



Hot Domestic Water installations must be designed and constructed by a competent and approved engineering company in accordance with the legally determined dimensions taking into account the legal regulations in force.

The project design should be made according to the current versions of the publications ("Sanitary Installation Project Preparation Principles", Chamber of Mechanical Engineers Publications, "Heating Installations", "Gas Installation Project Preparation Principles", "Heating Installation Project Design Guidelines" and Indoor installation - Specifications for the installations inside buildings conveying water for human consumption - Part 3: Pipe sizing - Simplified method) and referenced standards



The installation and maintenance operations must be carried out by expert personnel with sufficient technical knowledge on installation and they should have professional competence certificate in accordance with the manufacturer's instructions and

the applicable legal regulations. Incorrect installation may cause dangers, in which case the manufacturer cannot be held responsible and it may also damage to people, other living things (animals, plants) or goods.



Natural gas installation project; One of the dealers authorized by a gas company located in your city should be preferred for the project and survey study.



To use the water heater with LPG tubes or LPG tanks, it must be converted by our authorized Warmhaus service. The project design and application for LPG use should be performed by the company supplying the tank according to the local and legal rules.

#### **1.2. GENERAL WARRANTY CONDITIONS**

The manufacturer company shall not have any responsibilities within or out of the agreement scope due to malfunctions arising from the failure to follow legal regulations in force and standards and information given in this manual (and any information and instructions provided by the manufacturer) during the installation, use, or maintenance operations and the device warranty shall also be void.

The warranty period of the water heater is 2 years from the initial start-up by the authorized service. In case of failure of the product due to material, production, and installation errors within the warranty period, necessary maintenance and repairs shall be carried out free of charge without requesting a fee for labor and spare parts.

Hot Domestic Water installations must be designed and constructed by a competent and approved engineering company in accordance with the legally determined dimensions taking into account the legal regulations in force.

The manufacturer is not responsible for damages caused by any unauthorized interventions, incorrect installations, or operations.



Do not intervene on your own or do not allow others than authorized service to intervene since the water heater has hot w ater, natural gas/LPG, and electrical.

The service life as determined by the General Directorate of Consumer Protection and Market Surveillance of the Ministry of Trade as per the Law No. 6502 is 10 years and during this period, the manufacturer and seller companies are obliged to keep the necessary spare parts available and provide service to the devices for their functionality.

The maintenance of the device must be carried out by authorized and expert technical personnel, and Warmhaus Authorized Technical Service Centers provide a guarantee of quality and professionalism in this regard. WARMHAUS is not responsible for damages caused by repairs, part replacements, and maintenance performed by third persons and entities, and in such cases, the water heater will be out of the warranty scope. The water heater is CE marked in accordance with the following directives:

- Gas Directive 2009/142/EEC
- Electromagnetic Compatibility Directive 2014/30/EU
- Low Voltage Directive 2006/95/EEC
- REGULATION (EU) No 812-2013
- Commission Regulation (EU) No 812/2013

ČSN EN 26:2015, ČSN EN 55014-1 ed. 4:2017, ČSN EN 55014-2 ed. 2:2017, ČSN EN 60335-1 ed. 3:2012, ČSN EN 60335-2-102 ed. 2:2016, ČSN EN 61000-3-2 ed. 5:2019, ČSN EN 61000-3-3 ed. 3:2014, ČSN EN 61000-6-3 ed. 2:2007, ČSN FN 62233:2008

Manufacturer: Warmhaus Isıtma ve Soğutma Sistemleri Tic. A.Ş. Bursa Organize Sanavi Bölgesi Park Cad. No:10 16140 Nilüfer-Bursa / Turkev

WARMHAUS



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#### **1.3. SAFETY INSTRUCTIONS**

Read the entire manual before the installation and follow the instructions. Have the water heater checked by an authorized Warmhaus service technician at least once a year. Failure to follow these instructions may result in serious, possibly fatal personal injury and also property and equipment damage.



It is strictly forbidden to try to detect gas leakage with the help of flame.

This device is manufactured to be installed in the country specified on the technical registration label. Installation in countries other than the one indicated on the plate may cause damage to people, animals, or property.

#### 1.3.2. Gas Leakages

HOW TO ACT IF YOU SMELL THE NATURAL GAS.



lighter or matches.





Ensure that everyone evacuates the area with gas odor.

appliances.



1.3.1. Installation and Service

bathrooms, saunas)!

components (pipes, valves, filters, etc.).

performed by the Authorized Service.

materials

contractor

Open the doors and windows and ventilate the environment



Call local Natural Gas Emergency Line from your neighbor or an appropriate location.



• Fire hazard during soldering and brazing! Take appropriate protective

measures when soldering and brazing flammable and combustible

Ensure that the water heater is installed or serviced only by a licensed

Use only materials with sufficient temperature resistance for hot

Do not install this device in rooms with high moisture content (e.g.

• Inform the customer not to make any changes or repairs.

accessories (elbow, extension flue, etc.) other than the standard flue set are used when mounting the flue, the parameter settings should be

• Explain to the customer how the device works and how to use it.

• During the initial start-up of the water heater; if additional flue

**Attention to our Authorized Service!** 

Close the valves of your natural gaspowered devices and meter.



Never interfere with the installation. Wait for local gas authorised teams to arrive.



Do not push the door ring, do not allow anyone to push either.



In case of natural gas leakage, never close the vents that allow the gas to be discharged from the environment.







kıvılcım oluşturabilir.

Doğalgaz kaçağı durumunda telefon kullanmayınız.Telefon



#### 1.3.3. Waste Gas (Flue) Leakages

#### If you smell flue gas!

- Turn off the device.
- Open the windows and doors.
- Notify a trained and certified installer. Insufficient ventilation can cause toxic flue gas to escape. There is a risk of poisoning.
- Never close or reduce the air inlet and outlet (vent) openings.
- The device should not be operated until the reasons preventing the discharge of waste gas are eliminated.
- Ensure that the ventilation pipes and flues are not damaged or clogged due to the danger caused by waste gases coming out.
- · Connect only one device to each ventilation system or flue outlet.
- The ventilation system pipes must not be connected to another air discharge duct.
- Do not pass the flue system pipes through another air discharge duct.
- Works on gas (gas line) components can only be carried out by a trained and certified installer due to the danger of explosion of flammable gases.

#### 1.3.4. Combustion Air;

- Keep combustion air away from corrosive substances (halogenated hydrocarbons containing chlorine or fluorine compounds).
- Never close the ventilation vents!

#### 1.3.5. Inspection and Maintenance;

- Maintenance and repairs may be carried out only by a trained and certified Warmhaus service.
- Correct any installation errors immediately to avoid damage to the system.

#### 1.3.6. Electrical Shock Hazard



Make sure that only an authorized electrician performs the electrical works.

Before performing an electrical work, turn off the power and secure the unit against unintentional reconnection. Make sure that the system is disconnected from the electrical supply.

#### 1.3.7. Risk of Getting Scalded by Hot Water Faucet



When the water heater is running, the temperature may exceed 50 °C. To prevent such situations, the temperature in the tap should be limited by installing a thermostatic mixing valve.



Heated water for washing laundry, dishes and other cleaning purposes can cause scalding and permanent injuries.



Children, the elderly and the disabled are more likely to be permanently injured by hot water. Never leave such persons unattended in the bathtub or shower under any circumstances. Children should not be allowed to use the hot water taps themselves or fill a bathtub!

#### 1.3.8. Risk of Getting Injured by Flue Pipes

Avoid contact with the flue pipes. The temperature of the flue pipes can be up to 60  $^{\circ}\mathrm{C}$  depending on the settings of the water heater and the hot season conditions.





### 2. USER SECTION

#### 2.1. GENERAL WARNINGS FOR USER

If there is a gas smell in the environment, firstly close the gas valves in your house's inlet line and your water heater, or if you use bulk gas, close the LPG tank valves or your tube valve. Do not switch on/off the electrical switches and avoid anything that may produce spark. Call the gas company or the Authorized Service. (See 1.1. General Warnings and 1.3.2. Gas Leakages) Initial start-up of your water heater should be performed by Warmhaus Authorized Service for your safety and to maintain the warranty of your water heater. Our Authorized Service will inform you about how to use your water heater after making the first checks and operating it.

#### If you will keep the water heater off for a long time, then:

- Take necessary precautions against freezing (it should be in an insulated cabinet on open balconies, its doors should not be left open, water connection pipes should be protected with insulation covers),
- Close the electric fuse, gas valve, domestic water valves of the water heater!
- If you are unable to take the above-mentioned insulation precautions and you think the water heater will be exposed to freezing, take the short-term shutdown precautions as follows.

#### If you will keep the water heater for a short time, then:

- Do not close the electric fuse, gas valve, domestic water valves of the water heater!
- To activate the Anti-Freeze Protection Function, press the ON/OFF button on the control panel of the water heater and leave it in the OFF position,

Turn off the water heater during maintenance and repair works around the waste gas discharge flues.

After the completion of the works, have the water heater checked by Warmhaus Authorized Service before operating it.

#### Observe the following basic rules:



Do not clean the outer body of the water heater and do not use

easily flammable materials while it is running.

• Do not hold the heater with your hands or feet wet; do not hold it without shoes and in bare feet.

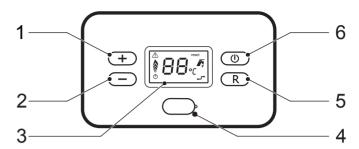
- Do not pull the electrical cables.
- In case of damage to the cables, turn off the water heater and fuse switches and never use the water heater.
- The electric wiring of the water heater must only be replaced by the Authorized Service.

#### 2.2. USE OF WATER HEATER

#### Before using the water heater, please check the following points:

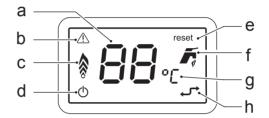
- The Domestic water and gas valves under the water heater are open,
- There is gas in the gas line (you can check it by turning on one of the gas stoves in your kitchen).
- The electric fuse of the water heater is on,
- There are no easily flammable materials and products near the water heater,
- The waste gas flue outlet is not blocked,

2.2.1. Control Panel and its Functions



- . Water Temperature Increase Button (+)
- 2. Water Temperature Decrease Button (-)
- 3. Digital Display
- 4. Service Connection Point
- 5. RESET Button
- 6. ON/OFF Button

#### Figure 2.1. Control panel



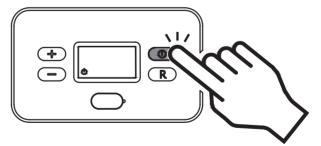
a) Current or set water temperature

- b) Malfunction error indicator
- c) Flame and modulation symbol (Burner on)
- d) Device off symbol
- e) RESET need symbol
- f) Hot domestic water demand active symbol
- g) Temperature (Degree Celsius symbol)
- h) Open-therm communication active symbol

Figure 2.2. Control panel display descriptions

#### 2.2.2. Turning On/Off of Water Heater and Temperature Setting

In line with information here, make sure that the cold water and hot water valves, gas valve, and electric fuse are open. If  $\bigcirc$  symbol is displayed on the left bottom corner of the screen, press the on/off button  $\bigcirc$  for more than 1 second. The current water temperature value appears on the display.



#### Figure 2.3. Turning on/off the water heater.

Use the + and - buttons to set the desired water temperature between 35 - 60 °C. The set value flashes on the display and is stored a few seconds after releasing the button and the water heater will now operate according to this temperature setting. The current water temperature appears again on the display. The water heater is ready for use.





Figure 2.4. The water temperature displayed on the screen.

When you open the hot water tap, your device is activated. It meets your water requirement up to 12 liters per minute at the temperature that you set and is displayed on the screen. When the water temperature rises above 70 °C, combustion will stop and will start again as soon as it falls below 65 °C.

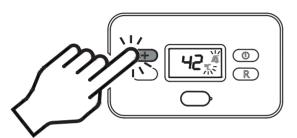


Figure 2.5. Adjusting the water temperature, increasing the temperature.



Figure 2.6. Adjusting the water temperature, reducing the temperature.

To turn the water heater off, simply press the button for more than 1 second, so the  $\bigcirc$  symbol appears in the left bottom corner of the screen. When the water heater is in off position, even if hot water comes from the tap, it will no longer heat up. In off position,  $\bigcirc$  only the Anti-Freeze Protection function remains active, the water temperature cannot be set, and the water heater does not operate on hot water demand. The water heater continues to remain in off position in the event that the water heater power is cut off in off position and then the power comes on.

#### 2.2.3. Water Heater Standby Position

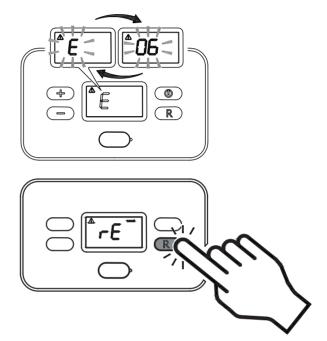
The water heater is in standby position when it is in on position, when there is no hot water demand and when there is no malfunction. The current water temperature is shown on the screen and the Anti-Freeze Protection function is active. Temperature setting can be made in standby position.

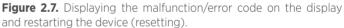
#### 2.3. SAFETY FUNCTIONS

There are many safety functions for safe use of your water heater, and due to these functions, some error/malfunction codes are displayed on the screen, during which the water heater stops working. Some of the malfunction/ error codes on the screen are functions that can be corrected by the user by pressing the RESET button and restarting the device.

## 2.3.1. Malfunction/Error Codes Shown on the LCD Screen and $\bigcirc$ Their Descriptions:

- E 06 Lockout indicator / Wiring error
- E 08 Ignition/Combustion error indicator
- **E 07** High limit protection
- **E 41** Loss of flame 6 times in 10 minutes
- E 88 Gas valve operation malfunction / Wiring error
- **E 87** Gas valve malfunction
- **E 82** Poor combustion error
- E 72 Temperature sensor not connected to pipe or faulty
- rE 81 Flue (fresh air) inlet / waste gas flue blockage





#### 2.3.2. Anti-Inertial Function

In case of a failure and/or no hot water demand in the water heater, if the water temperature is above 70 °C, the Anti-Inertial function is activated, allowing the fan to operate for a short time and decreasing the water temperature.

#### 2.3.3. Anti-Freeze Protection Function

In case of a failure and/or no hot water demand in the water heater, in Off or standby mode, the Anti-Freeze Protection function is activated under the following conditions;

- 5 minutes after the last hot water demand,
- 30 minutes after the activation of the last Anti-Freeze Protection function,
- If the detected water temperature is lower than +5 °C.

#### 2.3.4. Function of Operation with Solar Energy Systems with Storage

If the Aquwa 12 water heater is used with a solar energy system with storage, this function is activated by the authorized service and the necessary function settings are made. Thus, the water heater will not work for the specified function duration on hot water demands. When the timer expires, if the set water temperature is below the temperature as set by the function (0-20 °C), the water heater will start to operate according to the set temperature and be turned off when it reaches the [set temperature + temperature set by the function].

The display shows the domestic hot water temperature, the flame symbol indicates that the burner is on and its load.



To use this function safely and to limit the temperature in the tap, a thermostatic hot water mixing valve must be installed in the hot water distribution installation and used together.



#### 2.4. SOLUTIONS FOR MALFUNCTIONS AND ERRORS

Malfunction/ Error Code	Malfunction/Error Code Description	Water Heater Status	Possible Causes	Solution	
E 04	Hot Domestic Water temperature sensor error	Device is not functioning and EO4 malfunction code is flashing on the screen	Hot Domestic Water temperature sensor error	<ul> <li>1-) Reset <b>R</b> / restart the device and check if the malfunction is resolved.</li> <li>2-) If the malfunction persists, call the Authorized Service.</li> </ul>	
E 05	Hot Domestic Water temperature (Safety) sensor error	Device is not functioning and EO5 malfunction code is flashing on the screen	Hot Domestic Water temperature (Safety) sensor error	<ul> <li>1-) Reset <b>R</b> / restart the device.</li> <li>2-) If the malfunction persists, call the Authorized Service.</li> </ul>	
E 06	No ignition	Device is not functioning and EO6 malfunction code is flashing on the screen	Gas supply failure	<ul> <li>1-) Reset R / restart the device and check if the malfunction is resolved.</li> <li>2-) Check if other gas devices are working. 3-) Check if the main gas valve is open.</li> <li>4-) Check if the device gas valve under the device is open or not.</li> <li>5-) Reset R / restart the device and check if the malfunction is resolved.</li> <li>6-) If the malfunction persists, call the Authorized Service.</li> </ul>	
E 07	Security/Safety Thermostat intervention	Device is not functioning and E07 malfunction code is flashing on the screen	Low water flow rate Clogged installation	<ol> <li>1-) Reset R / restart the device and check if the problem is solved.</li> <li>2-) Check the water flow</li> <li>2-) If the problem is not solved, call the authorized service.</li> </ol>	
E 08	Flame circuit malfunction	Incorrect flame signal from electrode or combustion	Wear or rust on the electrode Electrode position Broken wiring Electronic card	1-) Reset <b>R</b> / restart the device. 2-) If the malfunction persists, call the Authorized Service.	
E 09	No water circulation in the system	Device is not functioning and EO9 malfunction code is flashing on the screen	Lack of water in the system Clogged installation	<ul> <li>1-) Reset <b>R</b> / restart the device.</li> <li>2-) If the malfunction persists, call the Authorized Service.</li> </ul>	
E 11	Gas valve modulator not connected	Device is not functioning and E11 malfunction code is flashing on the screen	Gas line malfunction	<ol> <li>Reset (R) / restart the device.</li> <li>If the malfunction persists, call the Authorized Service.</li> </ol>	
E 15	Fan malfunction (feedback/ supply)	device is not functioning and E15 malfunction code is flashing on the screen	Fan cable	<ol> <li>Reset (R) / restart the device.</li> <li>If the malfunction persists, call the Authorized Service.</li> </ol>	
E 17	Temperature difference between FLOW and LIMIT NTC (Dual Heating sensor) faulty	Device is not functioning and E17 malfunction code is flashing on the screen	FLOW and LIMIT SENSOR (dual NTC) faulty	<ol> <li>Reset (R) / restart the device.</li> <li>If the malfunction persists, call the Authorized Service.</li> </ol>	
E 20	Heater Over- temperature Malfunction, Heater Heating Temperature exceeded TSP 81 °C set value	Device is not functioning and E20 malfunction code is flashing on the screen	Lack of water in the system Clogged installation	<ul> <li>1-) Reset <b>R</b> / restart the device.</li> <li>2-) If the malfunction persists, call the Authorized Service.</li> </ul>	
E 37	At low voltage	Device is not functioning and E37 malfunction code is flashing on the screen	Low voltage < 165 VAC +/- 5% in mains operation mode OR <182 VAC +/- 5% in automatic calibration mode	1-) Reset $(\mathbf{R})$ / restart the device. 2-) If the malfunction persists, call the Authorized Service.	

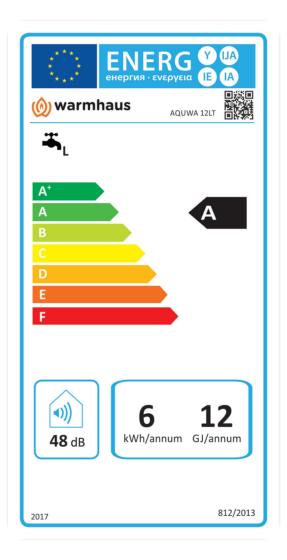


Malfunction/ Error Code	Malfunction/Error Code Description	Water Heater Status	Possible Causes	Solution	
E 40	Incorrect network frequency measurement	Device is not functioning and E40 malfunction code is flashing on the screen	Incorrect frequency measurement, in mains with a frequency other 50 Hz, tolerance is +/- 5%	1-) Call the company that supply the electricity network 2-) If the inlet frequency is 50 Hz +/- 5%, the error disappears	
		<ul> <li>1-) Reset <b>R</b> / restart the device.</li> <li>2-) If the malfunction persists, call the Authorized Service.</li> </ul>			
E 72	Delta T temperature difference did not occur in ignition	Device is not functioning and E72 malfunction code is flashing on the screen	FLOW OR RETURN Sensor not on position	<ul> <li>1-) Reset <b>R</b> / restart the device.</li> <li>2-) If the malfunction persists, call the Authorized Service.</li> </ul>	
E 80	Problem in electronic gas valve driver	Device is not functioning and E80 malfunction code is flashing on the screen	Electronic card Gas valve malfunction	<ul> <li>1-) Reset <b>R</b> / restart the device.</li> <li>2-) If the malfunction persists, call the Authorized Service.</li> </ul>	
E 81	Initial combustion lockout/blocking problem	Device is not functioning and E81 malfunction code is flashing on the screen	Excessive blockage in the flue Combustion problem Incorrect flue Gas inlet pressure Wear or rust on the electrode Recirculation in the flue gas path Electrode position Combustion calibration	1-) Reset <b>R</b> / restart the device. 2-) If the malfunction persists, call the Authorized Service.	
E 82	Combustion problem malfunction	Device is not functioning and E82 malfunction code is flashing on the screen	Recirculation incorrect flue selection or blockage in the flue combustion calibration	<ul> <li>1-) Reset <b>R</b> / restart the device.</li> <li>2-) If the malfunction persists, call the Authorized Service.</li> </ul>	
E 83	Temporary poor combustion	Device is not functioning and E83 malfunction code is flashing on the screen	Recirculation incorrect flue selection or blockage in the flue combustion calibration	<ul> <li>1-) Reset R / restart the device.</li> <li>2-) If the malfunction persists, call the Authorized Service.</li> </ul>	
E 87	Problem in electronic gas valve circuit	Device is not functioning and E87 malfunction code is flashing on the screen	Broken wiring Gas valve malfunction	1-) Reset <b>R</b> / restart the device. 2-) If the malfunction persists, call the Authorized Service.	
E 88	Gas valve connection error	Device is not functioning and E88 malfunction code is flashing on the screen	Broken wiring Gas valve malfunction	<ol> <li>Reset R / restart the device.</li> <li>If the malfunction persists, call the Authorized Service.</li> </ol>	



## 3. TECHNICAL DATA

TECHNICAL DATA	UNIT	WARMHAUS		
		AquWa 12		
Gas type		G20	G31	
Gas Supply Pressure	mbar	20	37	
Gas Category	G20	I <sub>2H</sub> , I <sub>2E</sub> , I <sub>2E</sub> , I <sub>2E</sub> , I <sub>3P</sub> , I <sub>12E3P</sub> , I <sub>12E(S)3P</sub> , I <sub>12H3P</sub> , I <sub>12E+3P</sub>		
Rated Heat Load (Minimum)	kW	10.0 10		
Rated Heat Load (Maximum)	kW	23.5	23.5	
Rated Heat Power (Minimum)	kW	8.90	8.95	
Rated Heat Power (Maximum)	kW	20.7	20.6	
Efficiency (Minimum)	%	89.2	89.5	
Efficiency (Maximum)	%	88.1	87.62	
Gas Consumption (minimum)	m³∕h	1.03	0,4	
Gas Consumption (maximum)	m³∕h	2.43	0.959	
Nozzles		85	50	
NOx	Grade	6	6	
NOx	mg/kWh	37.7	26	
Hot water Load profile	Load Profile	L		
Seasonal Efficiency	%	77		
Seasonal Efficiency Class	Grade	A		
Minimum Water Flow	l/min.	3		
Maximum Water Capacity ( T=25 °C)	l/min.	12		
Sound Level	dB	48		
Water Pressure (max.)	bar	10		
Water Pressure (min.)	bar	0.5		
Setting Range	٥C	35-60		
Power Supply	V AC	230 V +10%;-15%, 50 Hz		
Electrical Protection Class		IPX4D		
Electric Consumption	W	20 - 30		
Waste Gas Temperature (minmax.)	٥C	110 - 190		
Flue type		C12, C32 C42, C52, C62, C82, B22, B22P		
Flue mass flow rate (min./max)	g/s	9 / 13		
Dimensions	mm	638 x 336 x 242		
Volume of Device	Liter	51.9		
Weight, Net	kg	15		
Weight, Gross	kg	17		







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## AQUWA 12



