



672088877-00.1V

Gas continuous flow water heaters

Compact 4000 S

GWH12 1 CTD E23/31 F3 O



BOSCH

Installation Manual



Please read the installation instructions before installing the appliance!
Please read the operating instructions before commissioning the appliance!



Please observe the safety instructions in the operating instructions!
The installation location must meet the requirements for sufficient ventilation!



Installation must only be carried out by an authorised installer!

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1 Key to symbols and safety instructions

1.1 Key to symbols

Warnings



Warnings in this document are identified by a warning triangle printed against a grey background.

Keywords at the start of a warning indicate the type and seriousness of the ensuing risk if measures to prevent the risk are not taken.

The following keywords are defined and can be used in this document:

- **NOTICE** indicates a situation that could result in damage to property or equipment.
- **CAUTION** indicates a situation that could result in minor to medium injury.
- **WARNING** indicates a situation that could result in severe injury or death.
- **DANGER** indicates a situation that will result in severe injury or death.

Important information



This symbol indicates important information where there is no risk to people or property.

Additional symbols

Symbol	Explanation
▶	Step in an action sequence
→	Cross-reference to another part of the document
•	List entry
–	List entry (second level)

Table 1

1.2 General safety instructions

If you smell gas:

- ▶ Close the gas supply valve to the appliance.
- ▶ Isolate gas supply from gas meter or LPG bottle.
- ▶ Do not operate any electrical appliances or switches (on/off).
- ▶ Extinguish other sources of ignition.
- ▶ Go to a different location and call the gas supplier or an authorised technician in order to check the gas supply.

If you notice dark combustion gases or sooting:

- ▶ Isolate the Gas supply to the heater.
- ▶ Notify an authorised technician.

Installation, Assembly and Modifications

Installation, assembly and modifications to the heater must only be performed by an authorised installer.

Maintenance

- ▶ The water heater is required to have a service and safety inspection every two years.
- ▶ The Installer is responsible for the safety and environmental compatibility of the installation.
- ▶ The Owner/User is responsible for keeping the area around the water heater free from debris.
- ▶ Safe access to inspect and service the water heater is the responsibility of the property owner.
- ▶ Only original spare parts must be used, supplied by an authorised supplier of genuine Bosch parts.

Explosive and highly flammable material

- ▶ Do not store or use flammable material (paper, spray cans, solvents, paints, etc) near the heater.

Combustion air and surrounding air

- ▶ To avoid corrosion, the combustion air and surrounding air must be free from harmful substances.
- ▶ Do not spray aerosols or use chemicals around the heater unless heater is isolated. (All valves closed).

Risk of damage due to operator error

Operator error can result in injury and damage to property.

- ▶ Ensure that children never play with or operate this appliance unsupervised.
- ▶ Ensure that only personnel who can operate this appliance correctly have access to it.
- ▶ Refer to the operating and user instructions before adjusting the water heater.

To be installed and serviced only by an authorised person

The "authorised installing person" is responsible for:

- Correct installation and commissioning of this appliance.
- Ensuring the appliance performs to the specifications stated on the rating label.
- Demonstrating the operation of the appliance to the customer before leaving.
- Handing these instructions to customer.

THIS APPLIANCE IS NOT SUITABLE FOR POOL OR SPA POOL APPLICATIONS.

NOT SUITABLE FOR COMMERCIAL BOOSTING OF A WARM WATER RECIRCULATION SYSTEM"

Regulations

All local by-laws and regulations pertaining to installation and use of gas appliances must be observed.

This appliance must be installed in accordance with the manufacturers installation instructions, AS/NZS5601, AS/NZS3500.1, and all Local Building & Gas fitting regulations.

This appliance must not be installed indoors or in an enclosed space. This appliance is approved for outdoor installation only. Do not install this appliance with any modification or alteration.

Failure to install this appliance in accordance with these installation instructions will void the warranty and may create an unsafe situation.

Installation

**DANGER:**

This appliance must not be installed indoors or in an enclosed space in accordance with AS/NZS5601.

**DANGER:** Explosion Risk!

- ▶ Always turn off the gas valve before carrying out any work on components which carry gas.

**DANGER:** Appliance malfunction!

This appliance must be installed with no obstructions to air entry openings at the front, rear, side or top.

- ▶ Periodic checking of openings to ensure no blockage or obstruction of the air openings from plants, debris or insects must be carried out.



The gas installation, supply pipes and the initial startup are to be performed by an authorised person.



Not suitable for pool or spa pool applications. Not suitable for commercial boosting of warm water recirculation systems.



To reduce the chance of corrosion installation in a marine environment should be avoided. Premature corrosion due to the installation environment would not be covered by warranty.



All gas appliances require adequate air intake to ensure correct combustion. Insects and dirt ingress may affect combustion causing sooting. If you notice sooting from the flue outlet the unit would require servicing. Pest and dirt ingress is not covered by the manufacturers warranty.

Important information

- ▶ Determine most suitable location for the appliance. Install only on an external wall as close as possible to the most frequently used hot water outlet.
- ▶ Ensure the mounting structure is capable of supporting the weight of the appliance once installed. Secure the heater to the wall using fixings suitable for the weight of the appliance and the wall material.
- ▶ Install gas and water isolation valves as close as possible to the heater. Only use gate valve or full flow ball valve (fixed mechanism type) for cold water.
- ▶ Check the cold water supply pressure to ensure it meets the required supply pressure for the appliance. (see table 5).
- ▶ If inlet water pressure exceeds 800 kPa a pressure limiting valve (500 kPa) MUST be fitted. The preferable location for the pressure limiting valve is at the water meter.
- ▶ Where the pressure limiting valve is less than 3 metres from the hot water unit, it must be fitted in conjunction with a cold water expansion valve (700 kPa), between the water heater and the pressure limiting valve.
- ▶ Failure to comply with this requirement may void the warranty.
- ▶ Refer to AS/NZS5601 for the relevant gas pipe sizing.
- ▶ After finishing the gas piping system, the pipes must be thoroughly purged and leak tested. This test must be performed with the gas isolation valve of the appliance closed.
- ▶ Ensure the gas pressure and flow through the regulator are appropriate for the consumption of the heater (see table 5). Refer to AS/NZS5601 and AS3500.1 for the relevant pipe size.

Note: Incorrect pipe sizing or gas supply pressure may cause the appliance to under perform. Service calls for incorrect pipe sizing and/or gas pressure, will **NOT** be covered under warranty.

2 Product details

2.1 Declaration of Conformity

The appliance has been AS 4552 tested.

Model	GWH12 1 CTD E23/31 F3 O...							
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Table 2

2.2 Type overview

GWH	12	1	CT	D	E	23	F3	O
GWH	12	1	CT	D	E	31	F3	O

Table 3

[GWH] Gas continuous flow water heater

[12] Capacity (l/min)

[1] Generation

[CT] Thermostatic

[D] Digital user interface

[E] Electric ignition

[23] Appliance set for natural gas

[31] Appliance set for Universal LP gas

[F3] Open flue with fan

[O] Outdoor installation

2.3 Included items

- Gas continuous flow water heater
- Fixing brackets
- Gas connection accessory
- Appliance documentation

2.4 Rating plate

The rating plate is located on the outside of the appliance, on the bottom.

The particular room has the indications on the performance of the appliance, approval data and the serial number.

2.5 Description of appliance

- Wall-mounted appliance
- Remote control with multifunctional display panel (optional)
- Appliance for operating with natural gas or Universal LPG
- Electronic ignition
- Water flow sensor
- Water valve
- Temperature sensors for monitoring the temperature of the incoming and outgoing water of the appliance.
- Safety devices:
 - Ionisation electrode
 - Thermofuse

- Outgoing water temperature sensor
- Control box
- Air temperature sensor
- Anti-freeze device
- Electrical connection: 230 V, 50 Hz

2.6 Accessory (not supplied with the appliance)

- Gas conversion kits
- Remote control (optional)

2.7 Dimensions and minimum clearances

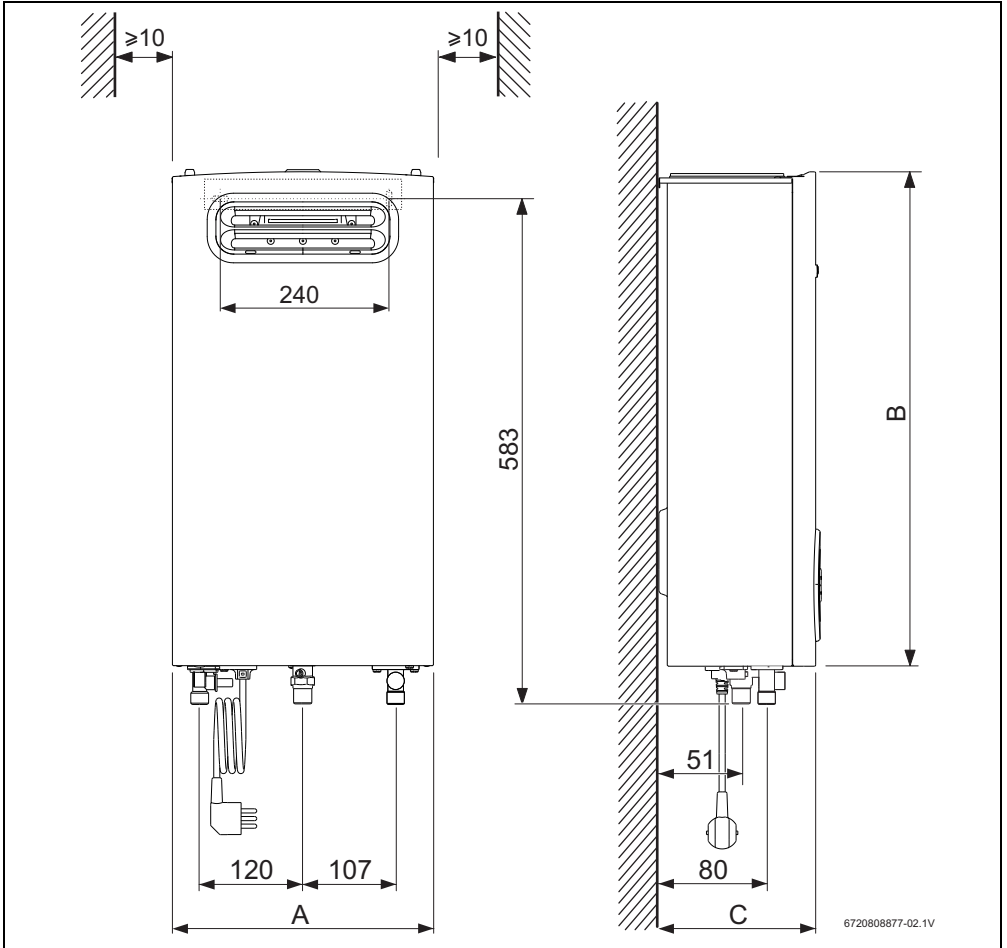


Fig. 1 Dimensions (in mm)

	A	B	C	Connections			
				Water		Gas	
				Cold	Hot	Nat.	LPG
GWH12	300	570	170	½"	½"	¾"	¾"

Table 4 Dimensions (in mm)

2.9 Electrical wiring diagram

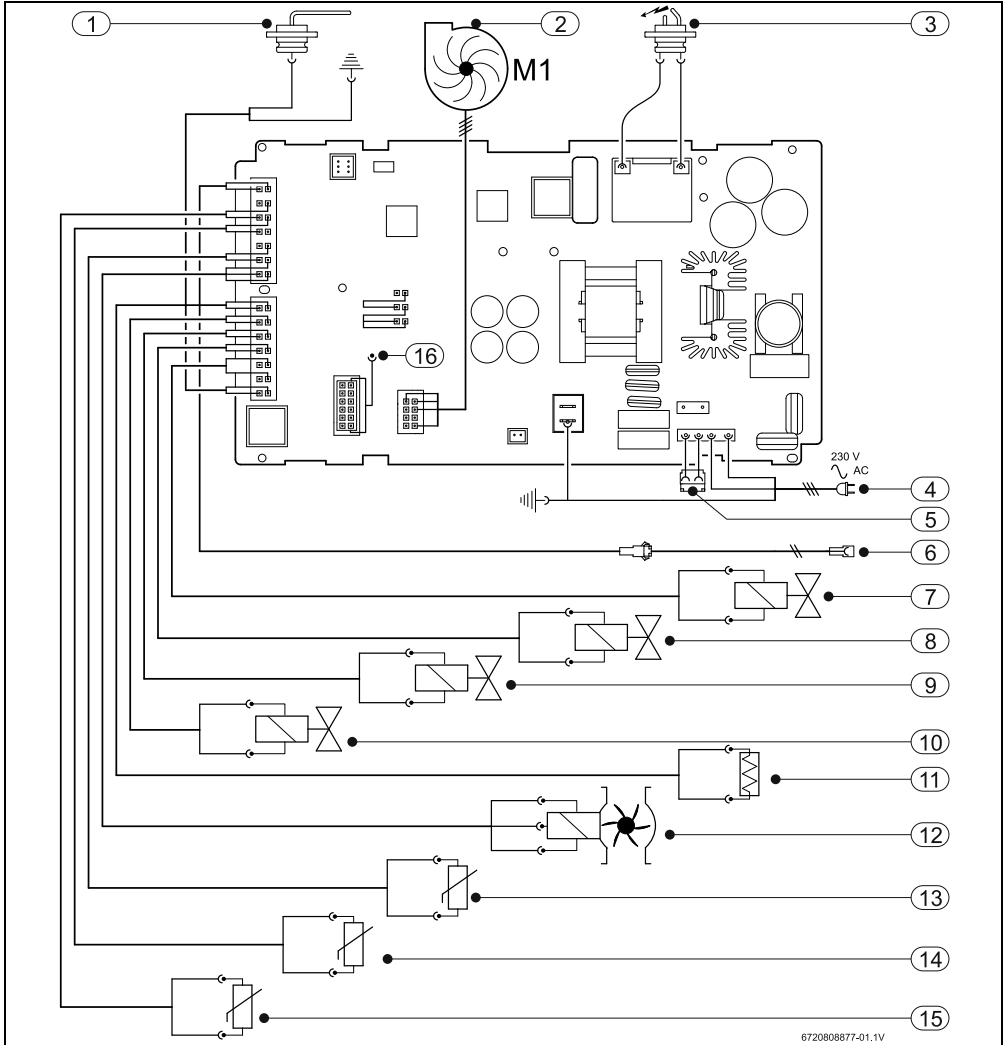


Fig. 3 Electrical diagram

- | | |
|--|--|
| [1] Ionisation electrode | [10] Electrovalve 4 |
| [2] Fan | [11] Thermofuse |
| [3] Ignition electrode | [12] Water flow sensor |
| [4] Supply | [13] Air temperature sensor of the box |
| [5] Connection for anti-freeze device | [14] Hot water temperature sensor |
| [6] Connection for remote control (optional) | [15] Cold water temperature sensor |
| [7] Electrovalve 1 | [16] Water valve |
| [8] Electrovalve 2 | |
| [9] Electrovalve 3 | |

2.10 Specification

Technical features	Units	GWH12
Performance		
Nominal gas consumption	MJ/h	90.0
Minimum gas consumption	MJ/h	11.9
Efficiency at 100% of nominal load	%	82.4
Gas supply data		
Gas supply pressure (flowing)		
Natural gas (when operating)	kPa	1.13
Universal LP gas (when operating)	kPa	2.75
Water supply data		
Maximum permissible pressure (static)		
	kPa	1000
Minimum operating pressure		
	kPa	100
Minimum water flow		
	l/min	2.2
Maximum flow, corresponding to a temperature increase of 25 °C		
	l/min	12.0
Maximum inlet temperature		
	°C	80
Electrical circuit		
Power supply voltage		
	V	230
Frequency		
	Hz	50
Maximum power consumption		
	W	228
Appliance enclosure rating		
		IPX5D
General data		
Weight (unpacked)		
	kg	10
Height		
	mm	570
Width		
	mm	300
Depth		
	mm	170

Table 5

3 Regulations

Any local by-laws and regulations pertaining to installation and use of gas-fired appliances must be observed.

This appliance must be installed in accordance with the manufacturers installation instructions, AS/NZS5601 and all Local Building & Gas fitting regulations

It is recommended that sanitary fixtures used for the purpose of personal hygiene have a temperature limiting device such as a tempering valve be fitted as per AS3498.

This appliance must not be installed indoors or in an enclosed space as per AS/NZS5601 5.12.5.2.

4 Installation (only by authorised installers)



DANGER:

This appliance must not be installed indoors.



DANGER: Explosion!

- ▶ Always shut off the gas tap before any work on the gas pipe parts.



The appliance installation, electrical connection, gas connection, and the initial start-up are operations to be carried out by authorised technicians only.



CAUTION:

- ▶ The temperature of the incoming water of the appliance must not exceed 80 °C.
- ▶ If the incoming water temperature exceeds 80 °C, fit a 3-way or thermostatic valve adjusted to less than 80 °C.
- ▶ In the case of a thermal solar system, ensure that the installation has an expansion tank.



Installation in a marine environment should be avoided.



Not suitable for pool, spa pool or solar application.



WARNING: Scalding!

This appliance delivers water exceeding 50 °C.

- ▶ Please refer to AS/NZS 3500.4 local requirements and installation instructions for additional temperature control requirements.

Thermal solar system (thermosiphon)

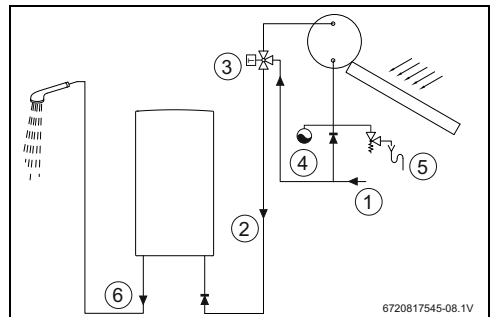


Fig. 4 Thermal solar system

- [1] Cold water from the mains
- [2] Pre heated water line
- [3] Thermostatic valve
- [4] Expansion tank or valve
- [5] Pressure temperature relief valve
- [6] Hot water line

4.1 Choice of installation site

4.1.1 Regulations concerning the installation site

- ▶ Install the appliance outdoors.
- ▶ The water heater may not be installed over a heat source.
- ▶ Respect the minimum installation clearances indicated in fig. 5 and table 6.
- ▶ Ensure that there is an external weatherproof powerpoint in the area and that it is easily accessible after the installation of the water heater.
- ▶ Ensure a minimum of 2.5 meters of water line length with $\frac{3}{4}$ " pipe size.



Ventilation requirements as per AS/NZS5601.

Location of the appliance

The air intake of this appliance is located on the back of the appliance.

► Ensure that this intake is free from debris.

In order to prevent corrosion, the combustion air must not contain any corrosive substances.

Substances classed as corrosion-promoting include halogenated hydrocarbons containing chlorine and fluorine compounds. They may be found in solvents, paints, adhesives, aerosol propellants and household cleaners.

If these conditions cannot be guaranteed, a different site must be chosen for the appliance.

Surface temperature

The maximum surface temperature of the appliance is below 85 °C. No special safety precautions are required with regard to flammable building materials and fitted furniture.

► Ensure that local building codes and regulations are followed.

4.2 Minimum clearances

- Comply with the specific instructions for each State.
- Install the appliance in a outdoor location where it will not be exposed to temperatures below zero. Ensure combustion gases are flued to outside atmosphere in accordance with AS5601.
- Install the appliance in accordance with the minimum installation clearances indicated in Fig. 5 and table 6, according to AS5601.
- The gas heater must not be installed over a heat source.
- Do not obstruct the openings of appliance.
- Maximum of 2 meters from the ground to the base of the appliance.
- Top and bottom areas must be clear from any obstacles at least 30 cm.

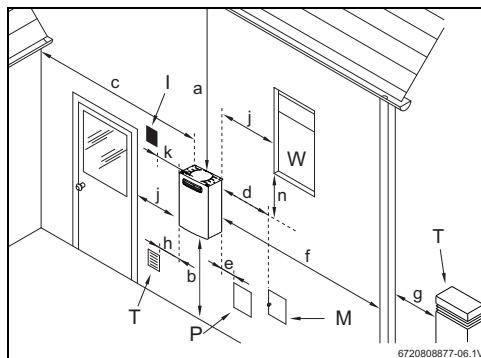


Fig. 5 Minimum flue clearances (use as a guide only, always refer to AS5601

- [T] Flue terminal
- [M] Gas meter
- [I] Mechanical air inlet
- [P] Electricity meter or fuse box
- [W] Openable window

Minimum clearances (mm)		
a	Below eaves, balconies and other projections:	
	- Appliances over 50 MJ/h input	300
b	From the ground, above a balcony or other surface ¹⁾	300
c	From a return wall or external corner ¹⁾	300
d	From a gas meter (M) (see 5.1.1.5.9 of AS5601 for vent terminal location of regulator)	1000
e	From an electricity meter or fuse box (P)	500
f	From a drain pipe or soil pipe	75
g	Horizontally from any building structure ¹⁾ or obstruction facing a terminal	500
h	From any other flue terminal, cowl, or combustion air intake ¹⁾	300
j	Horizontally from an openable window, door, non-mechanical air inlet, or any other opening into a building with the exception of sub-floor ventilation	
	- Appliances up to 150 MJ/h input	300
k	From a mechanical air inlet, including a spa blower	1000
n	Vertically below an openable window, non-mechanical air inlet, or any other opening into a building with the exception of sub-floor ventilation	
	- Appliances over 50 MJ/h input and up to 150 MJ/h input	1000

Table 6

1) Unless appliance is certified for closer installation

4.3 Fitting wall-mounting bar



Before fitting the wall-mounting bar, ensure that the water/gas flue accessory connections can be installed in this area.

No special wall protection is necessary. The wall has to be level and capable of supporting the weight of the appliance.

- ▶ Fix the packaging to the wall and mark the position of the fixing holes.

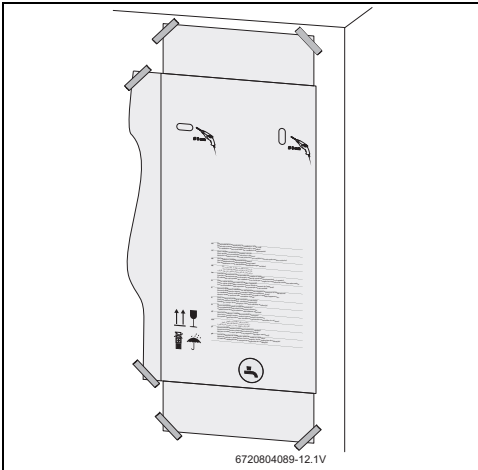


Fig. 6 Fitting templates

- ▶ Remove the packaging from the wall.
- ▶ Drill the required holes (Ø 8 mm).
- ▶ Fix the wall-mounting bar using appropriate screws and plugs.

4.4 Installing the appliance



NOTICE: The appliance may be damaged due to dirt in the pipes.

- ▶ Purge the pipes to eliminate possible foreign bodies.

- ▶ Remove the appliance from the packaging.
- ▶ Check that all the material indicated is included.
- ▶ Remove the covers from the gas and water connections.
- ▶ Check that the gas type available matches that shown on the sticker on the front of appliance, and on its dataplate.



CAUTION:

- ▶ Never support or balance the water heater on the water and gas connections.



To facilitate fitting, it is advisable to first of all complete the connection of the water and only later the remaining connections.



Packaging materials can be recycled.

4.5 Water connection

- ▶ Identify the cold and hot water pipe to avoid possible cross connection.
- ▶ Install a pressure reducing valve if required.
- ▶ Complete the cold (fig. 2, [18]) and hot (fig. 2, [9]) water connections, using the connection accessories supplied or recommended.

4.5.1 Temperature mixing device (not supplied with the appliance)



WARNING:

This water heater can heat water to temperatures which cause scalding.

Bosch recommends the installation of a temperature limiting device between the water heater and the hot water outlets in a bathroom or similar usage point, in order to reduce the risk of scalding.

Additionally, a certified plumber may have the legal obligation to ensure the water heater installation meets the hot water delivery requirements listed in AS/NZS 3500.4.

4.6 Gas connection



DANGER:

Non-compliance with applicable legal standards may cause a fire or explosion, causing material damage or personal injury or even death.



Only use original accessories.

The gas connection to the water heater must absolutely comply with the National Standards.

- ▶ First ensure that the water heater corresponds to the gas type available.
- ▶ Fit a gas shut-off valve on the gas supply line as close as possible to the appliance.
- ▶ After installation of the gas supply line, thorough purging and a tightness test must be carried out.



Size gas supply as per AS/NZ5601.
Incorrect gas pipe sizing will not be covered by the warranty.

4.7 Altitude of installation site region

To ensure correct operation of the appliance, it must be indicated the region altitude of the installation site.

- ▶ Enter the Service function (→section 6.2).
Display with "P2".
- ▶ Press **+** until the display shows "P4".
- ▶ Press the button **P**.
Display with indication "E".
- ▶ Press **-** until the display shows "AS".
- ▶ Press the button **P**.
Display with indication "1".
- ▶ Press the button **+** or **-** to select the region altitude of the installation site according to below table.
- ▶ Press the button **P** for 3 seconds.

Display	Altitude
1	< 500 m
2	500 m - 1 000 m
3	1 000 m - 1 500 m
4	1 500 m - 2 000 m
5	2 000 m - 2 500 m
6	> 2500 m

Table 7

4.8 Remote control connection (optional)

Connecting the communication cable to the remote control

- ▶ Open the remote control.

- ▶ Connect the communication cable to the remote control.

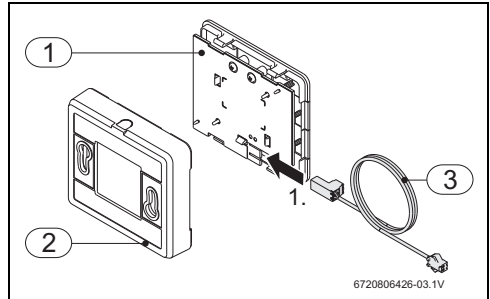


Fig. 7

- [1] Remote control front cover
- [2] Remote control back cover
- [3] Communication cable

- ▶ Close the remote control.

Connecting the communication cable to the appliance

- ▶ Connect the communication cable to the appliance.

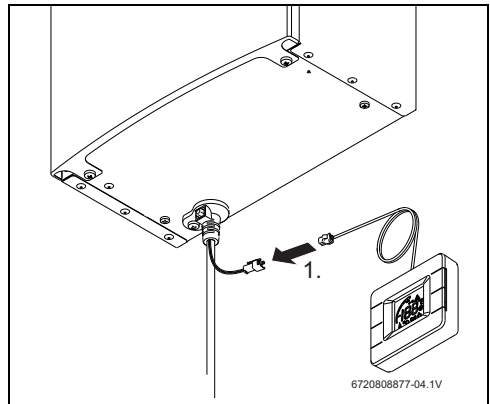


Fig. 8

The remote control connection is concluded.

4.9 Commissioning of the appliance

- ▶ Open the gas and water isolation valves and check the tightness of all the connections.

If a controller is connected:

- ▶ place the ON/OFF button in the operating position.
The appliance is now ready to operate.

When a hot water tap is turned on, the passage of water through the flow sensor (fig. 2, [14]) sends a signal to the control box. This signal triggers the following actions:

- The fan to start working.

14 | Electrical connection (only by authorised installers)

- Simultaneously, sparks are produced and the gas valve (fig. 2, [17]) opens passage to the burner.
- The burner lights. Initially only a part of the burner is lit.
- The ionisation electrode (fig. 2, [4]) detects the presence of the flame.
- The temperature of the water is checked automatically by the sensors based on the temperature selected.

Safety shut-down when the safety time is exceeded

If it is not possible to obtain the flame within the safety interval stipulated, a safety shut-down is carried out.

The presence of air in the gas supply pipe (initial start-up of the appliance or start-up after long periods of inactivity) may cause a delay or difficulty when igniting.

If the ignition attempt is unsuccessful after a period of time, the safety devices block the operation of the appliance, and air will have to be purged from the circuit.

Safety shut-down due to an excessively high water temperature

The control box detects the temperature of the water through the thermistor placed in the hot water pipe. If the appliance detects an excessive temperature, a safety shut-down will occur.

Safety shut-down due to defective flue conditions

If the appliance detects a defective flue condition, a safety shut-down will occur.

Re-start after a safety shut-down

To put the appliance back into operation after having caused a safety shut-down:

- ▶ Close and re-open a hot water tap.

5 | Electrical connection (only by authorised installers)



DANGER: Due to electric shock!

- ▶ Before carrying out work on electrical components, disconnect the power supply (230 V AC) (fuse, circuit breaker) and secure against unintentional reconnection.

All the regulating, control and safety devices in the appliance are factory supplied already connected and ready to operate.



CAUTION: Electrical storm!

- ▶ The appliance must have an independent connection in the electric box, protected by a differential safety switch of 30 mA and ground line. In areas with frequent electrical storms, a protector against electrical storms must also be fitted.

5.1 | Connecting the power cable



The electrical connection must be done in accordance with AS/NZS3000.

- ▶ Connect the power cable to a power socket with an earth connection.



If the power cable is damaged, it must be replaced with a Bosch supplied spare part.

6 | Regulating the gas (only for authorised installers)

6.1 | Factory regulation



The sealed components must not be broken.

The data plate on the each appliance will show the factory setting of that appliance.

Natural gas



The appliance must not be operated if the dynamic connection pressure is less than 1.13 kPa or greater than 2.75 kPa.

Universal LP gas



The appliance must not be operated if the dynamic connection pressure is: Universal LP gas: less than 2.5 kPa or greater than 4.5 kPa.

**DANGER:**

- ▶ The operations described below must only be carried out by an authorised installer.

6.2 Service function

Accessing the service function

- ▶ Press and hold down at the same time **P**, **+** and **-** for 3 seconds.

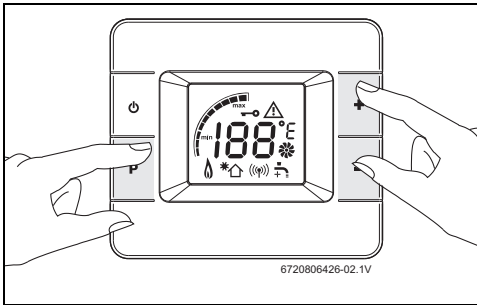


Fig. 9 Service function

Display with indication "P2".
The service function is activated.

6.3 Adjusting the appliance

6.3.1 Access to the pressure heads

- ▶ Remove the front of the appliance.

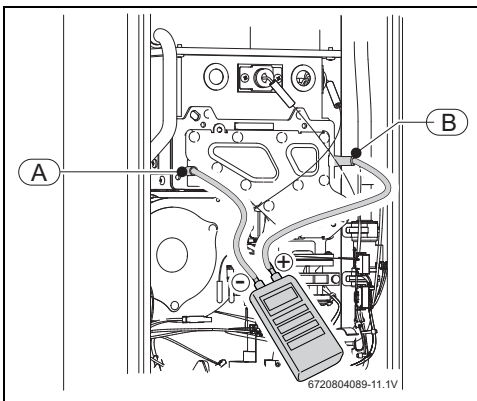


Fig. 10

- [A] Air pressure head in the box
- [B] Gas pressure head in the burner

6.3.2 Adjusting the maximum flow (Parameter P1)

- ▶ Connect the appliance on the ON/OFF button.
- ▶ Loosen the shutter screw of the pressure head point. [B]
- ▶ Connect the pressure gauge connection "+" to the test point.
- ▶ Loosen the shutter screw of the pressure head point. [A]
- ▶ Connect the pressure gauge "-" to the pressure head point. [A]
- ▶ Press **-** until the display shows "P1".
- ▶ Press the button **P**.
Display with indication "E".
- ▶ Press **-** until the display shows "L1".
- ▶ Press the button **P**.
The appliance is in the position for adjustment of the maximum gas flow.
- ▶ Open a hot water tap.
- ▶ Press **+** or **-** until the pressure gauge shows the value indicated in tab. 8.



If it is not possible to reach the value:

- ▶ Adjust the pressure in the burner (section 6.3.4) and repeat the adjusting procedure.

- ▶ Press **P** for 3 seconds.
The value flashes as a sign of confirmation.
- ▶ Press **P**.
Display with indication "L1".
- ▶ Close the hot water tap.
- ▶ Press **+** until the display shows "E".
- ▶ Press the button **P**.
Display with indication P1.
The adjustment of the maximum gas flow is finalised.

6.3.3 Adjusting the minimum flow (Parameter P2)

- ▶ Press **+** until the display shows "P2".
- ▶ Press the button **P**.
Display with indication "E".
- ▶ Press **-** until the display shows "L2".
- ▶ Press the button **P**.
- ▶ Open a hot water tap.
The appliance is in the position for adjustment of the minimum gas flow.
- ▶ Press **+** or **-** until the pressure gauge shows the value indicated in tab. 8.



If it is not possible to reach the value:

- ▶ Adjust the pressure in the burner (section 6.3.4) and repeat the adjusting procedure.

- ▶ Press **P** for 3 seconds.
The value flashes as a sign of confirmation.
- ▶ Press **P** .
Display with indication "L2".
- ▶ Close the hot water tap.
- ▶ Press **+** until the display shows "E".
- ▶ Press the button **P** .
Display with indication "P2".
- ▶ Simultaneously press the **P** , **+** and **-** for 3 seconds.
Display with indication of temperature selected.
- ▶ Disconnect the pressure gauge from the pressure heads points [A] and [B].
- ▶ Tighten the shutter screws of the pressure heads points [A] and [B].
The adjustment of the minimum gas flow is finalised.

- ▶ Press the button **P** .
- ▶ Open a hot water tap.
Let the value measured in the pressure gauge stabilise.
- ▶ Press **+** or **-** until the pressure gauge shows the value indicated in tab. 8.
- ▶ Press **P** for 3 seconds.
The value flashes as a sign of confirmation.
- ▶ Press **P** to come out of this function.
Display with indication P0.
- ▶ Close the hot water tap.
The adjustment of the burner pressure is finalised.

6.4 Factory default settings

- ▶ Enter the service mode by pressing and holding down the **P** , **+** , and **-** buttons simultaneously for 3 seconds (section 6.2).
Display with indication "P2".
- ▶ Press **+** until the display shows "P4".
- ▶ Press the button **P** .
Display with indication "E".
- ▶ Press **-** until the display shows "rP".
- ▶ Press the button **P** .
Display with indication "P1"
- ▶ Press **P** for 3 seconds.
The value flashes as a sign of confirmation.
- ▶ Press **P** .
Display with indication "P1"
- ▶ Press **+** until the display shows "P2".
- ▶ Press the button **P** for 3 seconds.
The value flashes as a sign of confirmation.
- ▶ Press **P** .
Factory default settings are restored.

	Natural gas H	Universal LP gas
Ø injector	GWH12	1.7
Dynamic connection pressure (mbar)	GWH12	11.3
Burner pressure (mbar) - P0	GWH12	1,2
Differential pressure of the burner MAX (mbar) - P1	GWH12	4.6 - 5.0
Differential pressure of the burner MIN (mbar) - P2	GWH12	0.5 - 0.8

Table 8 Pressure of the burner

6.3.4 Adjusting pressure in the burner (Parameter P0)



Burner pressures adjustment is only required if "L1" and "L2" cannot be reached.

- ▶ Enter the service mode by pressing and holding down the **P** , **+** , and **-** buttons simultaneously for 3 seconds (section 6.2).
Display with indication "P2".
- ▶ Press **-** until the display shows "P0".

7 Maintenance (only by authorised installers)

To guarantee that the consumption of gas and the emission of exhaust gas are maintained at the best values, we recommend that the appliance be inspected every two years and if necessary, maintenance works be carried out.



Maintenance must only be performed by an authorised service technician.



DANGER: Due to electric shock!

- ▶ Always isolate the electrical power to the appliance (fuse, safety power switch) before carrying out any work on electrical parts.

- ▶ Your appliance should only be attended to by a Bosch service agent. Please phone 1300 30 70 37 for service.
- ▶ Only use original replacement parts.

7.1 Periodic maintenance works

Functional check

- ▶ Check the proper operation of all the safety, regulation and verification elements.

Heat exchanger

- ▶ If heat exchanger is showing signs of sooting:
 - Remove the heat exchanger.
 - Clean by applying a jet of water in the lengthwise direction of the fins.



NOTICE: Damage to the appliance.

Damage to the heat exchanger.

- ▶ Do not apply a jet that is too strong or aimed in a direction other than that indicated.

- ▶ If the soot is not removed, use a stiff brush to carefully clean the fins.
- ▶ Regions with average/high water hardness: descale the inside of the heat exchanger and the connection pipes by using a diluted solution of hydrochloric acid or white vinegar.
- ▶ When reinstalling the heat exchanger replace the o-rings and seals.

Burner

- ▶ Inspect the burner and clean it if necessary.

If cleaning is required:

- ▶ Dismantle the burner.
- ▶ Use a brush to clean the surface of the burner elements.
- ▶ Use a jet of air to blow the burner elements.

Water filter / flow restrictor

- ▶ Close the water valve inlet.
- ▶ Loosen the cold water tube.
- ▶ Carefully pull the water filter/flow restrictor.
- ▶ Replace the water filter/flow restrictor.

7.2 Replacement of the fuses (control box)

- ▶ Loosen the fixing screw of the control box.
- ▶ Release all the connections to the control box.
- ▶ Open the control box.
- ▶ Replace the fuse.

7.3 Start-up after completion of maintenance works

- ▶ Re-tighten all the connections.
- ▶ Check the gas control (burner pressure).
- ▶ Check tightness of the flue circuit (with the front fitted).
- ▶ Check that there are no gas or water leaks.

8 Problems

Fitting, maintenance and repair must only be carried out by authorised installers. The following table describes the possible solutions.

Display	Description	Solution
A0	Cold and hot temperature sensor damaged.	<ul style="list-style-type: none"> ▶ Check temperature sensor and associated connections.* ▶ Call an authorised installer.
A1	Temperature inside the box very high (external temperature too high, heat exchanger calcified).	The appliance automatically regulates the performance of the appliance to avoid overheating.
A4	Air temperature sensor of the box faulty.	<ul style="list-style-type: none"> ▶ Check temperature sensor and associated connections.*
A7	Hot water temperature sensor faulty.	<ul style="list-style-type: none"> ▶ Check temperature sensor and associated connections.*
A9	Hot water temperature sensor is not fitted properly. Incoming gas pressure low.	<ul style="list-style-type: none"> ▶ Check fitting. ▶ Check incoming pressure.*
C7	Faulty fan.	<ul style="list-style-type: none"> ▶ Check fan connections. ▶ Close and open a hot water tap.
CA	Water flow above maximum value specified.	<ul style="list-style-type: none"> ▶ Check filter/restrictor of water flow.
CF	Blockage of gases coming out of the combustion.	<ul style="list-style-type: none"> ▶ Remove dirt or any other impediment in the flue/intake pipe.
C1	Air flow sufficient for start-up.	<ul style="list-style-type: none"> ▶ Close and open a hot water tap. <p>If the problem persists, call an authorised installer.</p>
E0	Breakdown in the electrical box	<ul style="list-style-type: none"> ▶ Press the reset button. <p>If the problem persists, call an authorised installer.</p>
E1	Hot water temperature sensor detects overheating.	<ul style="list-style-type: none"> ▶ Let the appliance cool and try again. <p>If the problem persists, call an authorised installer.</p>
E2	Cold temperature sensor faulty.	<ul style="list-style-type: none"> ▶ Check sensor and associated connections.*
E4	Hot water temperature sensor detects overheating (leaking combustion products inside the heat exchanger).	<ul style="list-style-type: none"> ▶ Disconnect the appliance. ▶ Call an authorised installer.
E9	Thermofuse.	<ul style="list-style-type: none"> ▶ Call an authorised installer.
EA	Flame not detected.	<ul style="list-style-type: none"> ▶ Check the pressure of the gas supply to the mains connection, the ignition electrode and the ionisation electrode. ▶ Press the reset button.

Table 9



Display	Description	Solution
EF	Wrong gas connection.	Natural gas appliance supplied with liquid gas.
F7	A flame is detected although the appliance is switched off.	<ul style="list-style-type: none"> ▶ Check the electrodes and the cable. ▶ Check the flue gas pipe and the printed circuit board.* ▶ Press the reset button.
FA	Fault in the gas shut-off valve.	▶ Call an authorised installer.
FC	Buttons pressed for more than 30s.	▶ Release the button.
With indication,  but without existence of solar thermal system.	The temperature selected is lower than the minimum power that the appliance supplies.	▶ Increase the hot water flow. If the problem persists, increase the setpoint temperature.
With indication  and water temperature low.	High incoming water temperatures, or low flow rate can create this occurrence.	
	Appliance is making a resonance noise (vibration).	▶ Call an authorised installer.

Table 9

Note: breakdowns diagnosed by the water heater through the signal lamp in the reset button combined with an indication in the LCD panel result in the blocking of the appliance for safety reasons. Once the problem is solved, you have to press the reset button to start the appliance working again.

Call 1 300 30 70 37 for service contact details.

9 Environment / disposal

Environmental protection is a fundamental corporate strategy of the Bosch Group.

The quality of our products, their efficiency and environmental safety are all of equal importance to us and all environmental protection legislation and regulations are strictly observed. We use the best possible technology and materials for protecting the environment taking into account of economic considerations.

Packaging

We participate in the recycling programmes of the countries in which our products are sold to ensure optimum recycling. All of our packaging materials are environmentally friendly and can be recycled.

Used appliances

Used appliances contain valuable materials that should be recycled.

The various assemblies can be easily dismantled and synthetic materials are marked accordingly. Assemblies can therefore be sorted by composition and passed on for recycling or disposal.

10 Water quality

All Bosch water heating appliances are constructed from high quality materials and components and all are certified for compliance with relevant parts of Australian and New Zealand gas, electrical and water standards.

Whilst Bosch water heaters are warranted against defects, the warranty is conditional upon correct installation and use, in accordance with detailed instructions provided with the heater. In the case of the water supplied to the heater, it is important that the water quality be of an acceptable standard.

The water quality limits/parameters listed in water quality table are considered acceptable and generally, Australian and New Zealand suburban water supplies fall within these limits/parameters.

In areas of Australia and New Zealand where water may be supplied, either fully or partly, from bores, artesian wells or similar, one or more of the important limits may well be exceeded and the heater could, therefore, be at risk of failure.

Where uncertainty exists concerning water quality, intending appliance users should seek a water analysis from the water supplying authority and in cases where it is established that the water supply does not meet the quality requirements of the water quality table, the Bosch warranty would not apply.

Water quality table

Maximum levels

pH	Saturation Index (LSI) (Langelier)	Total Hardness	Chlorides	Sodium	Iron
6.5-9.0	+0.4 to -1.0 at 65 °C	200 mg/l	250 mg/l	180 mg/l	1 mg/l

Table 10

11 Warranty details

Robert Bosch (Australia) Pty Ltd (Bosch) Manufacturer's Warranty (Applicable for purchases from 1 January 2012)

All Bosch hot water units are carefully checked, tested and subject to stringent quality controls.

1. Warranty

Bosch offers, at its option, to repair or exchange this Bosch hot water unit or the relevant part listed in clause 2 below at no charge, if it becomes faulty or defective in manufacture or materials during the warranty period also stated in clause 2. This warranty is offered in addition to any other rights or remedies held by a consumer at law.

2. Warranty periods & coverage

- (a) Domestic applications: 2 years (parts and labour)
- (b) Heat exchangers used in domestic applications: 10 years (parts only)
- (c) Commercial applications: 12 months (parts and labour)
- (d) Heat exchangers used in commercial applications: 12 months (part only)

All warranty periods commence on the date of purchase of the hot water unit by the end-user. However, where the date of purchase by the end-user is more than 24 months after the date of manufacture, all warranty periods will automatically commence 24 months after the date of manufacture.

3. Warranty exclusions

This warranty is VOID if any damage to or failure of the hot water unit is caused wholly or partly by:

- (a) faulty installation
- (b) neglect, misuse, accidental or non-accidental damage, failure to follow instructions
- (c) use of the unit for purposes other than which it was designed or approved
- (d) unauthorised repairs or alterations to the unit without Bosch's consent
- (e) use of unauthorised parts and accessories without Bosch's consent
- (f) use of non-potable water or bore water in the hot water unit (see product instructions for further details)
- (g) continued use after a fault becomes known or apparent.

This warranty DOES NOT include:

- (a) costs of consumables or accessories
- (b) wear and tear, normal or scheduled maintenance
- (c) to the extent permitted by law, any damage to property, personal injury, direct or indirect loss, consequential losses or other expenses
- (d) changes in the condition or operational qualities of the hot

water unit due to incorrect storage or mounting or due to climatic, environmental or other influences.

NOTE: Any service call costs incurred by the owner or user of the hot water unit for any matter not covered by the terms of this warranty will not be reimbursed by Bosch, even if those costs are incurred during the warranty period. If the hot water unit is located outside the usual operating area of a Bosch service agent, the agent's travel, freight or similar costs are not covered by this warranty and must be paid by the owner or user of the hot water unit.

4. Warranty conditions

- (a) Proof of purchase may be required.
- (b) The hot water unit must be installed by an authorised and licensed installer.
- (c) Proof may be required of the date of installation and correct commissioning of the hot water unit has been carried out to Bosch's satisfaction (such as a certificate of compliance).
- (d) Repair or replacement of the hot water unit or any parts under this warranty does not lengthen or renew the warranty period.
- (e) This warranty is not transferable and is only offered to the original purchaser of the hot water unit.
- (f) No employee or agent of Bosch is authorised to amend the terms of this warranty.
- (g) This warranty only applies to Bosch hot water units purchased from an authorised reseller and installed in Australia or New Zealand.
- (g) To the extent that any condition or warranty implied by law is excludable, such condition or warranty is excluded.

5. How to lodge a warranty claim and warranty procedure

- (a) Warranty claims must be made with the Bosch Customer Contact Centre (Australia: ph 1300 307 037; New Zealand: ph 0800 543 352). Please be ready to provide the model and serial numbers, date of installation, purchase details and a full description of the problem. Warranty claims must be made before the end of the warranty period.
- (b) All warranty service calls must be conducted by an authorised Bosch service agent.
- (c) Invoices for attendance and repair of a hot water unit by third parties not authorised by Bosch will not be accepted for payment by Bosch.

6. Privacy Act 1988 (Cth)

A customer's personal information collected during warranty claims may be used for the provision of customer support, for the provision of information about products and services and for other marketing activities undertaken by Bosch and its Bosch Service Agents who are authorised to carry out warranty repairs on behalf of Bosch (Purpose). Bosch is committed to protecting the privacy of its customers' personal information. It will act in compliance with the National Privacy Principles and

Privacy Act 1988 (Cth). Bosch will not forward customers' personal information to third parties other than for the Purpose. A customer can object at any time to the use of their personal information for the Purpose. Bosch will cease to use a customer's personal information accordingly if an objection is made.

7. Bosch contact details

If you have any questions about this warranty or to lodge a warranty claim, please contact:

Robert Bosch (Australia) Pty Ltd
1555 Centre Road, Clayton, Victoria 3168
Tel: Australia: 1300 307 037
Tel: New Zealand: 0800 543 352

IMPORTANT NOTE FOR AUSTRALIAN CONSUMERS

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Notes



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