



BOSCH

Installation and Users Instructions

Gas Instantaneous Water Heater

Therm 4200

T4200 11/14/18-2D




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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 Safety information

Important

- ▶ Read these instructions for use carefully so as to familiarize yourself with the appliance before connecting it to its gas container.
- ▶ Keep these instructions for future reference.

If there is a smell of gas:

- ▶ Close the gas valve.
- ▶ Open windows.
- ▶ Do not connect any electrical appliance.
- ▶ Extinguish any naked flames.
- ▶ Phone the gas company or an authorized technician from a safe distance.

If there is a smell of burnt gases:

- ▶ Disconnect the appliance.
- ▶ Open doors and windows.
- ▶ Inform an installation company.

Fitting, modifications

- ▶ The fitting and modification of the installation of the appliance must be carried out only by an authorized technician.
- ▶ The installation of the water heater may only be carried out by a registered installer and that such installations shall comply with the requirements of SANS 10087-1.
- ▶ The pipes carrying burnt gases must not be modified.
- ▶ Do not close or reduce air circulation holes.

Maintenance

- ▶ The user must maintain and periodically service the appliance.
- ▶ The user is responsible for the safety and environmental compatibility of the installation.
- ▶ The appliance should be serviced annually.
- ▶ Only original spare parts should be used.

Explosive and inflammable materials

- ▶ Inflammable materials (paper, solvents, ink, etc.) should not be stored near the appliance.

Combustion air and ambient air

- ▶ To avoid corrosion, combustion air and ambient air should be free of aggressive substances (for example halogenated hydrocarbons containing chlorine and fluoride composites).

Important information for the user

- ▶ This appliance may only be installed by a registered LP Gas installer.
- ▶ All registered installers are issued with a card carrying their registration number.
- ▶ Ask to be shown the card before allowing the installation work to commence and make a note of the Installer QCC number. Upon completion of the installation, the installer is required to explain the operational details of the appliance

together with the safety instructions. You will be asked to sign acceptance of the installation and be provided with a completion certificate. You should only sign for acceptance of the installation when the installation is completed to your satisfaction. Note that your invoice is required in the event that you wish make a guarantee claim.

Important information for the installer

- ▶ This appliance may only be installed by a LP gas installer registered with the Liquefied Petroleum Gas Association of Southern Africa.
- ▶ The appliance must be installed in accordance with the requirements of SANS 10087-1 and any fire department regulations and/or local by laws applicable to the area. If in doubt check with the relevant authority before undertaking the installation.
- ▶ Upon completion of the installation you are required to fully explain and demonstrate to the user the operational details and safety practices applicable to the appliance and the installation.

Client information

- ▶ Inform the client about the function and operation of the appliance.
- ▶ Caution clients against performing modifications or repairs themselves.

Safety of electrical appliances for domestic use and similar purposes

The following requirements apply in accordance with EN 60335-1 in order to prevent hazards from occurring when using electrical appliances:

“This appliance can be used by children of 8 years and older, as well as by people with reduced physical, sensory or mental capabilities or lacking in experience and knowledge, if they are supervised and have been given instruction in the safe use of the appliance and understand the resulting dangers. Children must not play with the appliance. Cleaning and user maintenance must not be performed by children without supervision.”

“If the power cable is damaged, it must be replaced by the manufacturer, its customer service department or a similarly qualified person, so that risks are avoided.”

2 Technical Characteristics and Dimensions

2.1 Type overview

T	4200	11	-2	D	23 31
T	4200	14	-2	D	23 31
T	4200	18	-2	D	23 31

Table 2

- [T] Gas instantaneous water heater
- [4200] Series
- [11] Capacity (l/min)
- [-2] Version
- [D] Digital display
- [23] Appliance set for natural gas
- [31] Appliance set for LPG

2.2 Material attached

- Gas water heater
- Fixing elements
- Connections elements
- Documentation
- Two 1.5 V batteries type R

2.3 Type plate

The type plate is located on the left side of the appliance, on the bottom.

It contains details of the output of the appliance, the order number, the approval data and the date of manufacture in encoded form (FD).

2.4 Description of appliance

Operating convenience, as the heater is ready to operate by simply pressing a switch.

- Heater for wall-mounting
- Ignition by electronic device triggered when the water valve opens
- Gauge to display temperature, burner operation and malfunctions
- Temperature sensor to monitor the water temperature at the heater output
- Great savings in comparison with conventional heaters, due to the possibility of power adjustment and no permanent pilot flame
- Natural gas/LPG burner

- Semi-permanent pilot burner which only functions during the period between the opening of the water valve and the ignition of the main burner
- Heat exchanger without tin/lead covering
- Water valve in fibreglass-reinforced polyamide, 100% recyclable
- Automatic adjustment of the water flow by means of a device which permits a constant flow to be maintained in spite of variable pressure supplies
- Gas flow adjustment proportional to the water flow to maintain a constant high temperature.
- Safety devices:
 - Ionisation probe to check for accidental extinction of the burner flame
 - Flue gas safety device which turns off the heater in case of inadequate combusted gas evacuation conditions
 - Temperature limiter which prevents overheating of the heat exchanger

2.5 Accessory (not supplied with the appliance)

- Conversion kit from natural gas to butane/propane and vice-versa.

2.6 Dimensions

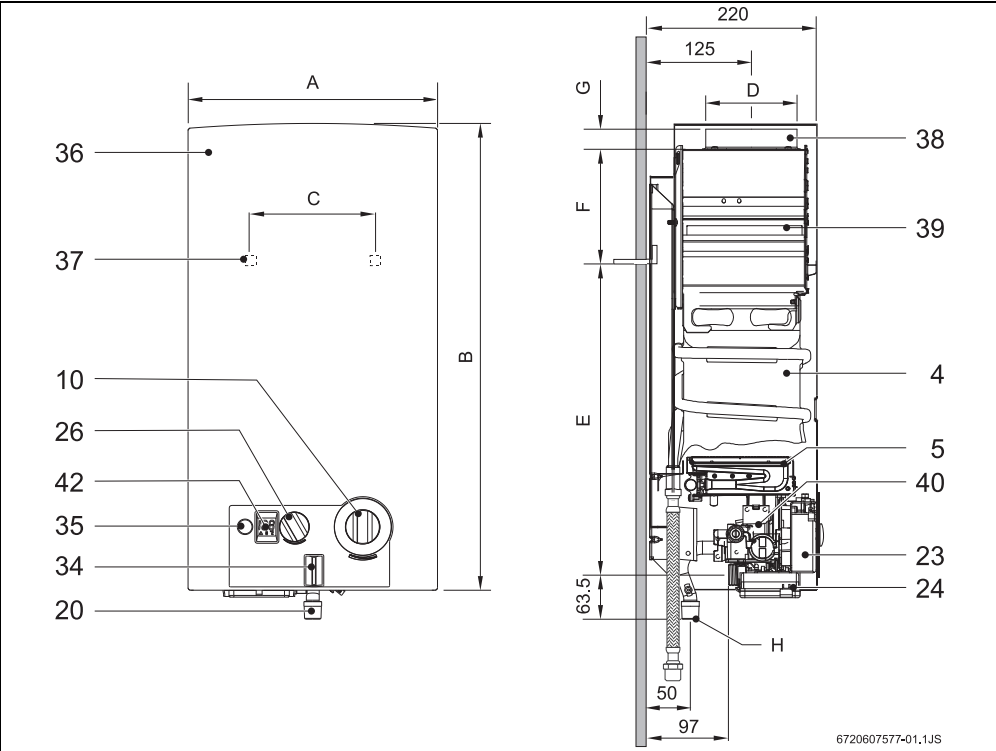


Fig. 1

- [4] Heat exchanger

[5] Burner

[10] Temperature/volume selector

[20] Gas connection

[23] Ignition unit

[24] Battery compartment

[26] Power selector

[34] LED - Burner status check
- [35] Switch / LED - Battery status check

[36] Front cover

[37] Hole for fixing to wall

[38] Exhaust pipe union

[39] Flue with non-return device

[40] Gas valve

[42] Digital display

Dimensions (mm)	A	B	C	D	E	F	G	H (Ø)	
								Natural gas	LPG
T4200 11-2D...	310	580	228	112,5	463	60	25	1/2"	
T4200 14-2D...	350	655	228	125	510	95	30	1/2"	
T4200 18-2D...	425	655	334	125	540	65	30	1/2"	

Table 3 Dimensions

2.7 Electrical diagram

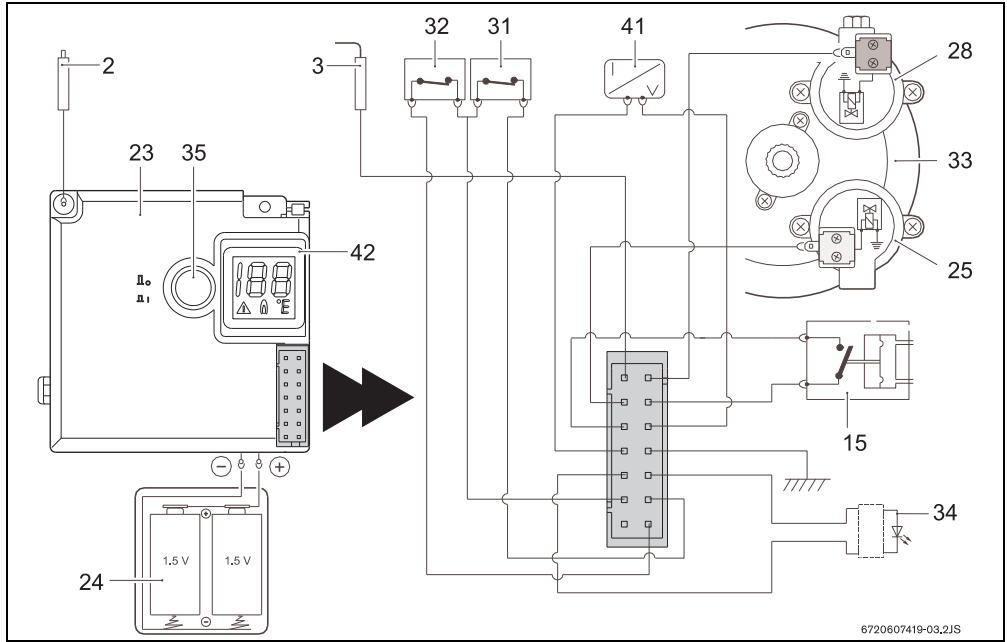


Fig. 2 Electrical diagram

- [2] Spark plug
- [3] Ionisation probe
- [15] Micro-switch
- [23] Ignition unit
- [24] Battery compartment
- [25] Servo valve (normally open)
- [28] Gas valve (normally closed)
- [31] Temperature limiter
- [32] Flue gas safety device
- [33] Diaphragm valve
- [34] LED - Burner status check
- [35] Switch / LED - Battery status check
- [41] Temperature sensor
- [42] Digital display

This is a way of saving a great amount of energy as the pilot burner only operates for the minimum necessary time to ignite the main burner, in contrast to conventional systems which operate permanently.



Air in the gas supply pipe when the heater is started up may cause ignition to fail.

If this happens:

- Close and open the hot water tap to repeat the ignition process until all the air has been purged.

2.8 Function

This gas heater is equipped with automatic electronic ignition which simplifies its operation.

- To do so, just turn on the switch (→Fig. 6).

After this procedure, automatic ignition occurs whenever a hot water tap is opened. First, the pilot burner is lit and approximately four seconds afterwards the main burner. The pilot burner flame is then extinguished after a short period of time.

2.9 Technical Data

Technical Data	Symbol	Units	T4200 11-2D	T4200 14-2D	T4200 18-2D
Output and heat demand					
Rated max. heat output	P _n	kW (Btu/h)	19,2 (65570)	23,6 (80595)	29,5 (100589)
Rated min. heat output	P _{min}	kW (Btu/h)	7,0 (23905)	9,0 (30710)	9,3 (31733)
Output (modulation range)		kW (Btu/h)	7 - 19,2 (23905-65570)	9,0 - 23,6 (30710-80595)	9,3 - 29,5 (31733-100589)
Rated max. heat input	Q _n	kW (Btu/h)	21,8 (74450)	27,0 (92210)	33,5 (114306)
Rated min. heat input	Q _{min}	kW (Btu/h)	9,5 (32415)	10,4 (35486)	10,8 (36851)
Gas supply specifications ¹⁾					
Supply pressure					
Natural gas H	G20	kPa	2,0	2,0	2,0
LPG (butane/propane)	G30/G31	kPa	2,8	2,8	2,8
Consumption					
Natural gas H	G20	m ³ /h	2,2	2,77	3,5
LPG (butane/propane)	G30/G31	kg/h	1,75	2,2	2,79
Number of injectors			12	14	18
Water system specifications					
Max. water pressure ²⁾	p _w	MPa	1,2	1,2	1,2
Temperature control at maximum setting					
Temperature increase		°C	50 ^{± 5}	50 ^{± 5}	50 ^{± 5}
Flow range		l/min	2 - 5,5	2 - 7	2 - 7,8
Min. operating pressure	p _{w min}	MPa	0,01	0,01	0,03
Minimum pressure for maximum flow		MPa	0,025	0,035	0,08
Temperature control at minimum setting					
Temperature increase		°C	25	25	25
Flow range		l/min	4 - 11	4 - 14	4 - 16,5
Min. operating pressure		MPa	0,02	0,02	0,05
Minimum pressure for maximum flow		MPa	0,06	0,1	0,20
Flue specifications³⁾					
Draught requirement		MPa	0,0015	0,0015	0,0015
Flow rate		g/s	13	17	22
Temperature		°C	160	170	180

Table 4

- 1) Hi 15 °C - 1013 mbar - dry: Natural gas 34.2 MJ/m³ (9.5 kWh/m³)
LPG: Butane 45.72 MJ/kg (12.7 kWh/kg) - Propane 46.44 MJ/kg (12.9 kWh/kg)
- 2) Considering the water dilution effect this value must not be exceeded
- 3) For nominal calorific power

3 Use



Open all water and gas blocking devices.
Purge the pipes.



CAUTION: The area in front of the burner can reach very high temperatures, and there is a risk of burning on contact.

3.1 Digital display - description

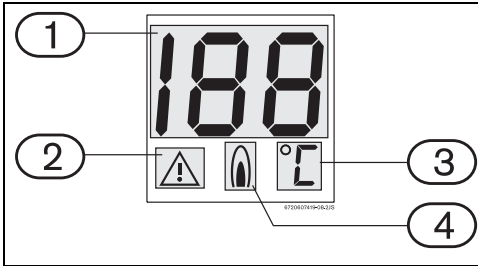


Fig. 3 Digital display

- [1] Temperature/error code
- [2] Malfunction indicator
- [3] Temperature measurement units
- [4] Heater in operation (burner turned on)

3.2 Batteries

Battery insertion

- Insert the two 1.5 V R20 batteries.

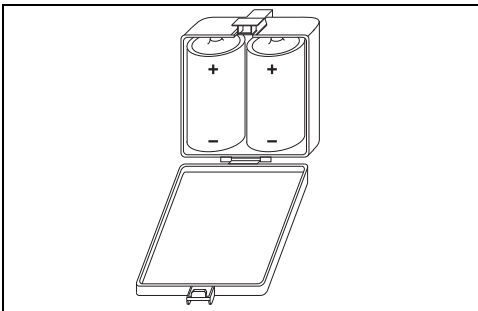


Fig. 4 Inserting the batteries

Replacing the batteries

The batteries must be changed if the red LED starts flashing.

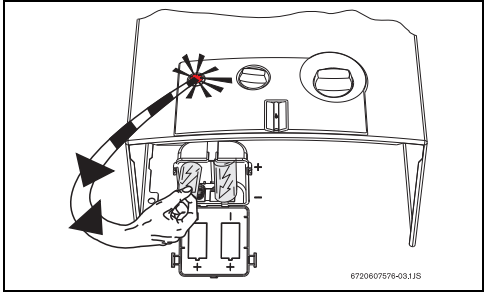


Fig. 5 Replacing the batteries

Precautions when using the batteries

- Do not dispose of batteries as domestic waste. Take them to appropriate collecting places for recycling.
- Do not insert flat batteries.
- Only use the type of batteries indicated.

3.3 Before starting up the heater





CAUTION:

- The initial startup of the heater must be realized by a qualified technician, who will provide the client with all the information necessary for its correct usage.

- Check if the gas indicated on the type plate is the same as the one used at the location.
- Open the gas valve.
- Open the water valve.

3.4 Turning the heater on and off

Turning on

- Press the switch  , position .

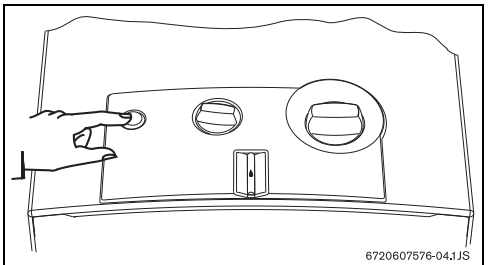


Fig. 6

Green light on = Main burner on

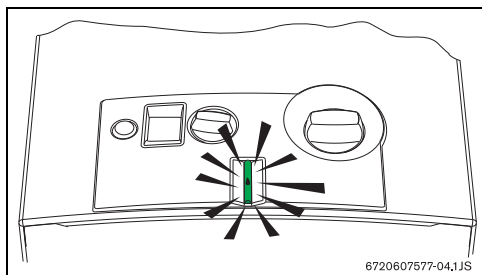


Fig. 7

Turning off

- Press the switch  , position .

3.5 Water flow

If the red LED starts flashing, check the water pressure.

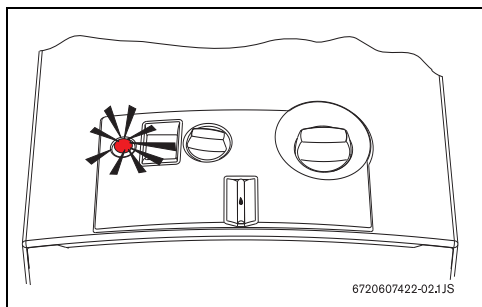


Fig. 8

3.6 Power adjustment

Lower water temperature.
Less power.

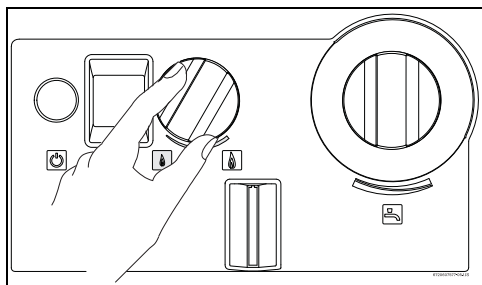


Fig. 9

Higher water temperature.
More power.

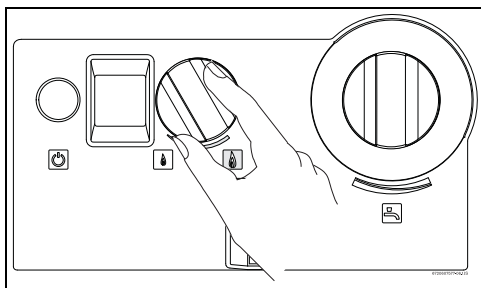


Fig. 10

3.7 Temperature/flow adjustment

- Turn anti-clockwise
Increases flow and decreases water temperature.

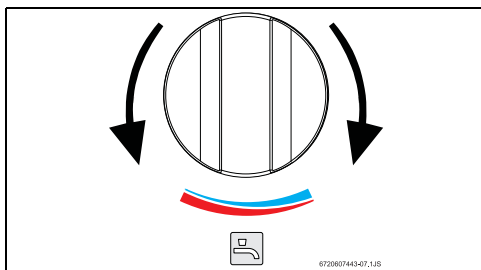


Fig. 11

- Turn clockwise.
Decreases flow and increases water temperature.

Regulating the temperature to the minimum required value reduces energy consumption as well as the possibility of lime scale deposits in the heat exchanger.



CAUTION: The temperature on the display is not precise, always check before bathing children or elderly people.

4 Regulations

Any local by-laws and regulations pertaining to installation and use of gas-heated appliances must be observed. Please refer to the laws that should be attended in your country.

5 Installation (must be carried out only by qualified technicians)



DANGER: Explosion!

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



The appliance must be installed in accordance with the requirements of SANS 10087-1 for use with LPG, SANS 827 for use with NG and any fire department regulations and/or local bylaws applicable to the area.



Installation, electrical connection, gas installation, connection of inlet and exhaust pipes and initial startup must be realized exclusively by authorized personnel.



The appliance can only be sold in the countries mentioned in the type plate.



NOTICE: Damage to the device!

Leaking connections.

- ▶ Do not put the device down on the floor with the connections facing downwards, so that the metal threads are not damaged.

5.1 Important information

- ▶ Before installation, consult the gas company and current legislation regarding gas appliance and site ventilation.
- ▶ Install a gas shut-off tap as close to the appliance as possible.
- ▶ After connection to the gas main, the appliance should be carefully cleaned and tested for leaks; to avoid damage from excess pressure in the valve gas regulator, this should be carried out with the gas valve shut.
- ▶ Ensure that the appliance installed is suitable for the type of gas provided.
- ▶ Ensure that the flow and pressures for the regulator installed are those indicated for the consumption of the appliance (→ see technical data in table 4).

Water quality

The device is used for DHW heating for domestic purposes in accordance with the relevant regulations. Use of a water treatment system is recommended in areas with a high level of water hardness. The water parameters, which have an effect on limescale, must generally comply with the values given in Tab. 5.

TDS (Total dissolved solids) (mg/l)	Hardness (mg/l)	pH
0 - 600	0 - 180	6,5 - 9,0

Table 5



NOTICE: Damage to the device!

If these values are not observed, it can result in partial blockage and faster ageing of the internal body of the device.


5.2 Selection of location for installation

Considerations relevant to location

- Do not install the appliance in rooms where the free volume is less than 8 m³.
- Fulfil requirements specific to each country.
- The appliance must not be installed in sites where the ambient temperature is susceptible to drop below 0 °C. Where there is a risk of freezing, disconnect and empty the appliance.
- The gas heater must not be installed over a heat source.
- To avoid corrosion, products such as solvents, inks, inflammable gases, glue or domestic detergents containing halogenic hydro-carbons or any product that might provoke corrosion must not be stored near the air admission grill.
- Respect the minimum installation measurements indicated in Fig. 12.
- The heater must not be installed in locations where the room temperature can reach 0 °C.

In case of a frost risk:

- ▶ Turn the heater off.
- ▶ Remove batteries.
- ▶ Purge the heater (→ section 7.3).



DANGER: Flame reflow!

In case you suspect anything unusual in the appliance operation:

- ▶ shut down gas cock
- ▶ shut down water cock
- ▶ call an approved technician to check the local conditions.

Outdoor installations: to prevent flame reflow in outdoor installations please make sure that a weather box /cover protection is fitted.

Indoor installations: to prevent flame reflow in indoor installations please make sure that a weather box /cover protection is fitted at the end of the secondary flue.

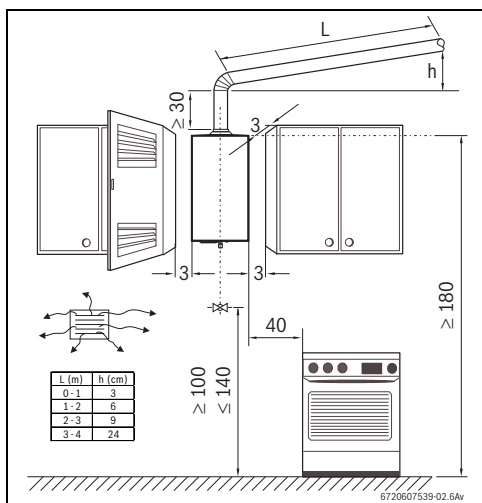



Fig. 12 Minimum clearances (in cm)

Combustion gases

- All gas heaters must be connected in a leak-proof manner to a gas evacuation pipe of adequate dimensions.
- The flue must:
 - be vertical (reduced horizontal sections or no horizontal sections at all)
 - be thermally insulated
 - have an exit above the maximum roof level
- A flexible or rigid pipe should be used, fit it inside the flue socket. The external diameter of the pipe should be slightly smaller than the dimension specified in the appliances dimensions table.
- The extremity of the evacuation pipe must be protected against wind/rain



CAUTION: Ensure that the extremity of the evacuation pipe is placed between the ledge and the ring of the flue.

Where these conditions are not possible to achieve, an alternative location must be selected.

Flue ducts

If the flue duct goes through walls and/or furniture containing flammable material:

- ▶ Thermal insulate the duct to ensure that the temperature of the contact surface is less than 85 °C.

Surface temperature

The maximum surface temperature of the appliance is below 85 °C. Special protection measures are not required for inflammable building materials or housings.

Air admission

The place where the heater is to be installed must have an area of air supply according to the table.


Appliance	Minimum area
T4200 11-2D	≥ 60 cm ²
T4200 14-2D	≥ 90 cm ²
T4200 18-2D	≥ 120 cm ²

Table 6 Useful areas for air admission

Minimum requirements are listed above. Local regulations should always be observed.

5.3 Fixing the appliance

- ▶ Remove the temperature/flow selector and the power selector.
- ▶ Unscrew the cover fixing screws.
- ▶ Remove the outer case by sliding it forwards and then lifting upwards.
- ▶ Fix the appliance using the sleeves and hooks supplied so that it is vertical.



CAUTION: Never allow the appliance to rest against water or gas pipes.

5.4 Water connection

It is advisable to drain the appliance before installing it as any dirt or grit inside it could reduce the water flow rate and, in extreme cases, could completely clog up the appliance.

- ▶ Mark cold water [A] and hot water pipes [B], so as to prevent confusion.

- Connect pipe to water valve using the connecting kit supplied.

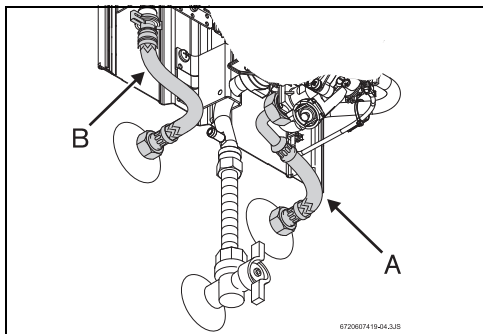


Fig. 13 Water connection



It is advisable to install a non-return valve on the supply side of the heater to avoid problems caused by sudden changes in supply pressure.

5.5 Gas connection



DANGER:
Non-compliance with legal standards applicable 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 to be installed corresponds to the type of gas supplied.
- Fit a gas shut-off valve at the entrance as close as possible to the appliance.
- After completion of the gas network, thorough cleaning must be done and a tightness test carried out to avoid damage due to excess pressure in the gas system, this has to be carried out with the gas valve of the appliance closed.
- Check that the flow and the pressure supplied for the reducer installed are those indicated for the consumption of the appliance (see technical data in tab. 4).

Installation with flexible tube (G.P.L.)



DANGER: Danger to life caused by gas leak!

- Proceed to replace the tube if you find that it is dry and fragile.
- Replace the tube at least every four years.

The installation, if done with **flexible tube** (not metal), only for appliances designed to be connected to a bottle of Butane, must comply with the following:

- must have a possible minimum length of at most 1.5 m;
 - the tube must comply with ET IPQ 107-1 and applicable standards;
 - must be controllable all the way through;
 - must not come near areas where heat is released;
 - avoid folds or other bottlenecks;
 - the connection at the ends must be made with proper accessories and tabs without grooves
- Check that the supply tube is clean.
 - Use the accessory door rubbers (supplied) and a tab to make the connection to the incoming gas of the appliance.

Installation with connection to a gas supply network

- In the case of an installation with connection to a gas supply network, you must use metal tubes in accordance with the applicable standards.

To make the connection between the gas supply network and the water heater, you must use the accessory supplied.:

- Tighten the coil in the incoming gas tube.
- Use the end in copper to do the welding to the tube from the supply network

Gas pressure regulator

This appliance requires an operating pressure of 2,8 kPa at the appliance. A suitable LPG regulator that complies with the requirements of SANS 1237 must be installed.

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

Please refer to the laws that should be attended in your country.

5.6 Commissioning

- Turn on the gas and water cocks and check all connections for leaks.
- Insert the two batteries correctly (Fig. 4) 1.5V type R supplied with the heater.
- Check flue gas safety device is functioning correctly, proceed as explained in section 7.4.

6 Adjustments (must be carried out only by qualified technicians)

6.1 Factory regulations



Sealed parts must not be interfered with.

Natural gas



Heaters must not be turned on if the connection pressure is lower than 1,5 kPa or higher than 2,5 kPa.

Heaters for natural gas (G 20) are supplied sealed from the factory after being adjusted to the values indicated on the type plate.

Liquefied gas



The appliances must not be operated if the dynamic connection pressure is:

- Propane: less than 2,5 kPa or greater than 4,5 kPa
- Butane: less than 2,0 kPa or greater than 3,5 kPa.

Heaters for propane/butane (G31/G30) are supplied sealed from the factory after being adjusted to the values indicated on the type plate.



DANGER: The following procedures must only be performed by a qualified technician.

Power may be tuned according to the burner pressure process, for which a manometer is required.

6.2 Pressure regulation

Access to the adjuster screw

- Remove the appliance front cover (→ section 5.3).

Connection of manometer

- Loosen the shutter screw.

Adjustments (must be carried out only by qualified technicians)

- Connect the manometer to the burner pressure measuring point.

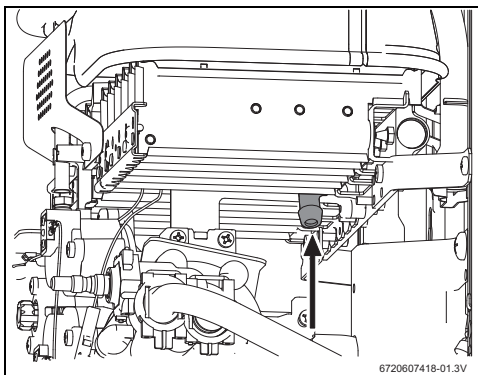


Fig. 14 Pressure measurement point

Maximum gas flow adjustment

- Remove the seal from the adjusting screw (Fig. 15).
- Turn on the heater with the power selector set to the left (maximum position).

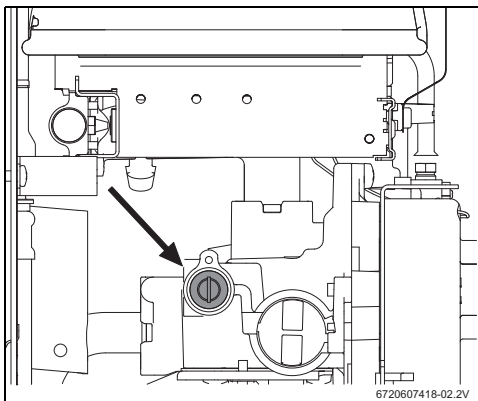


Fig. 15 Maximum gas flow adjusting screw

- Open several hot water taps.
- Using the adjusting screw (Fig. 15), regulate the pressure until achieving the values indicated in the table 7.
- Seal the adjusting screw once again.

Minimum gas flow adjustment



The minimum gas flow adjustment is performed automatically after the adjustment of the maximum gas flow.

		Natural gas H	Butane	Propane
Injector code	11	8708202113 (110)	8 708 202 130 (70)	
		8708202124 (120)	8708202128 (72)	
	14	8 708 202 113 (110)	8708202128 (72)	
		8708202116 (125)	8708202132 (75)	
	18	8708202115 (115)	8708202130 (70)	
		8708202116 (125)	8708202132 (75)	
Connection pressure (kPa)	11	2,0	2,8	3,7
	14			
	18			
Burner pressure MAX (kPa)	11	1,27	2,8	3,5
	14	1,2	2,8	3,5
	18	1,03	2,55	3,25

Table 7 Burner pressure

6.3 Conversion to a different type of gas

Only use the **original conversion kits**.

The conversion must only be performed by a qualified technician. The original conversion kits are supplied with assembly instructions.

7 Maintenance (must be carried out only by qualified technicians)



The appliance should only be serviced by an approved engineer. A complete overhaul should be carried out after two years.



WARNING:

Before performing any maintenance work:

- ▶ Close the water flow valve.
- ▶ Close the gas flow valve.

- ▶ Use only authentic spare parts and accessories.
- ▶ Order the spare parts according to the spare parts catalogue for the heater.
- ▶ Replace dismantled joints and o-rings with new ones.
- ▶ Only the following lubricants must be used:

- On hydraulic parts: Unisilikon L 641 (8 709 918 413)
- Threaded joints: HFt 1 v 5 (8 709 918 010).

7.1 Periodic maintenance tasks

Functional checks

- ▶ Ensure that all safety, regulatory and checking elements are in good working order.

Heat exchanger

- ▶ Check if the heat exchanger is clean.
- ▶ In case of dirt:
 - Remove the heat exchanger and take out the limiter.
 - Clean the chamber with a powerful jet of water.
- ▶ If dirt persists: Soak the plates in hot water with detergent and clean thoroughly.
- ▶ If necessary: De-lime the interior of the heat exchanger and the connection pipes.
- ▶ Install the heat exchanger using new joints.
- ▶ Install the limiter on the support.

Burner

- ▶ Check the burner annually and clean it if necessary.
- ▶ If it is very dirty (grease, soot): Remove the burner, soak it in hot water with detergent and clean it thoroughly.

Water filter

- ▶ Replace the water filter installed in the water valve entry.

Burner and pilot injector

- ▶ Remove and clean the pilot burner.
- ▶ Remove and clean the pilot injector.



WARNING: Without a water filter installed, turning on the heater is prohibited.

7.2 Startup after maintenance work

- ▶ Tighten all connections once more.
- ▶ Read chapter 3 "Use" and chapter 6 "Adjustments".

7.3 Heater purge

In case of a frost risk, proceed as follows:

- ▶ Remove the retaining clip from threaded bushing [1].
- ▶ Remove threaded bushing [2] from water valve.

- Empty the appliance of all water.

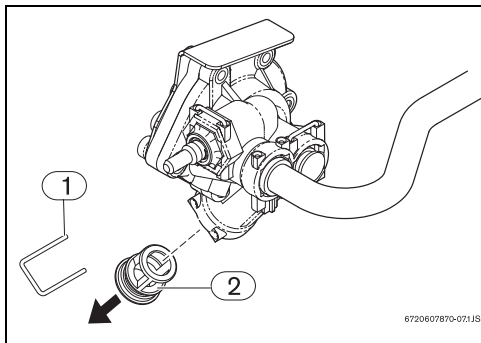



Fig. 16 Purging

- [1] Retaining clip
- [2] Threaded bushing

7.4 Flue gas safety device




DANGER: The probe must never be turned off, modified or replaced with a different part under any circumstances.

Operation and precautions

This probe verifies the conditions of flue evacuation and, in case of malfunction, it automatically turns off the heater. This prevents the combustion gases from entering the room where the gas heater has been installed. The probe restarts after a reset period.

If the heater turns off during operation:

- Ventilate the room.
 - 10 minutes later, turn on the heater once again.
- Call a qualified technician if the same thing happens again.



DANGER: The user must never touch the device.

Maintenance¹⁾

If the probe malfunctions, proceed in the following manner:

- Unscrew the probe fixing screw.
- Detach the ignition unit terminal.

Maintenance (must be carried out only by qualified technicians)

- Replace the damaged part and proceed with its assembly using the steps indicated in the previous table, in reverse order.

Operating check¹⁾

To check the correct operation of the combustion gas probe, proceed in the following manner:

- Remove the combustion gases evacuation pipe.
- Replace it with a pipe (approximately 50 cm long) blocked at one end.
- The pipe must be routed vertically.
- Turn on the heater at nominal power and with the temperature selector adjusted to maximum temperature. In these conditions, the heater must turn off two minutes afterwards, at most. Remove the pipe and replace the evacuation pipe.

7.5 Safe operation/ risk for prolonged use

Prolonged use power wear some elements may cause gas leaks and transhipment of products of combustion.

Preventively should:

- Make a visual inspection of the maintenance intervals to the following elements:
 - Gas valve
 - Combustion chamber

In case of corrosion visible:

- Call the intervention of a qualified contractor.

1) These procedures must be performed by a qualified installer.

8 Problems

8.1 Problem/cause/solution

Assembly, maintenance and repairs must be performed by qualified technician only. The following chart offers solutions to possible problems (solutions followed by an * must be undertaken by qualified technician only).

Problem	Cause	Solution
The heater does not ignite and digital display is turned off. Slow and difficult ignition of the burner. Red LED in switch flashes.	Batteries flat, not inserted correctly or switch turned off. Flat batteries. Flat batteries.	<ul style="list-style-type: none"> ► Check battery position and/or replace them, check switch position. ► Replace them. ► Check and correct.
Water at low temperature.		<ul style="list-style-type: none"> ► Check the temperature selector position and adjust it according to the desired water temperature.
Water is not heated, no flame.	Insufficient gas supply.	<ul style="list-style-type: none"> ► Check reducer, and if inadequate or malfunctioning, replace it. ► Check if the bottles (butane) freeze during operation, and if so, move them to a warmer place.
The burner turns off the heater is operating.	Temperature limiter has tripped (digital display shows " E9 "). Monitoring device of combustion gases evacuation has tripped (digital display shows " A4 ").	<ul style="list-style-type: none"> ► Wait 10 minutes and restart the heater. If the problem persists, call a qualified technician. ► Vent the area. Wait 10 minutes and restart the heater. If the problem persists, call a qualified technician.
Incorrect temperature information in the appliance digital display.	Insufficient contact of the temperature sensor.	<ul style="list-style-type: none"> ► Check and correct the temperature sensor assembling.
Digital display shows " E1 ".	Water temperature sensor has tripped (outlet water temperature above 85 °C).	<ul style="list-style-type: none"> ► Reduce the water temperature using the power and/or temperature adjustment selector. If the problem persists, call a qualified technician.
Digital display shows " A7 ".	Temperature sensor incorrectly connected. Temperature sensor defective.	<ul style="list-style-type: none"> ► Check and correct connection. ► Replace the temperature sensor.
Blocked heater.	Digital display shows " F7 " or " E0 ".	<ul style="list-style-type: none"> ► Turn the heater off and on. If the problem persists, call a qualified technician.
There is spark but the main burner does not ignite, heater blocked.	No ionisation probe signal (digital display shows " EA ").	Check: <ul style="list-style-type: none"> • Gas supply. • Ignition system (ionisation electrode and electrovalves)

Table 8

Problem	Cause	Solution
Blocked heater, digital display shows "F0".	Supply (switch or battery replacement) was activated with a hot water tap running.	<ul style="list-style-type: none"> ► Turn the heater off and on. If the problem persists, call a qualified technician.
Burn-back	Downdraft (strong winds). Burner defect. GAs quality.	<ul style="list-style-type: none"> ► Call a qualified technician.
Reduced water flow.	Insufficient water supply pressure. Dirty taps or mixers. Gas valve blocked. Heat exchanger blocked (limescale).	<ul style="list-style-type: none"> ► Check and correct. * ► Check and clean. ► Clean filter.* ► Clean and de-lime if necessary.*

Table 8

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.

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