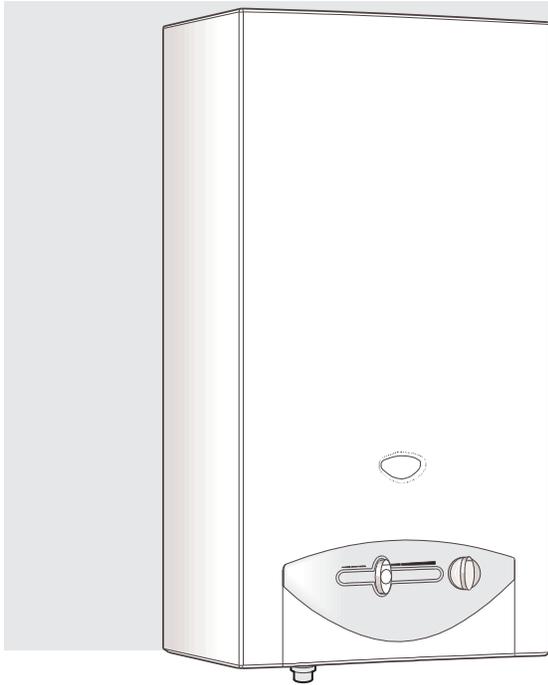


Gas Instantaneous Water Heater



6720606846-00.1JS

WR8..P...
WR11..P...

With piezo ignition and double safety system consisting of flue gas monitor and heat exchanger temperature sensor.

6 720 607 884 (2009/05) GB

Safety instructions:

If you smell gas:

- Do not operate any electrical switches.
- Do not telephone from inside the danger area.
- Turn off the gas cock.
- Open windows and ventilate room.
- From outside, call the gas company and your approved installer.

Do not use or store easily combustible materials in the vicinity of the appliance.

Installation and servicing of the appliance may only be carried out by an approved technician.

The appliance should be regularly serviced in order to ensure that it remains in perfect and safe working order.

If there is a risk of freezing, the appliance must be switched off and drained. If the appliance has not been drained during a cold spell, when it is switched on again check that it produces hot water. If problems occur, contact your installer

Contents

1. Technical Characteristics and Dimensions 1.1 Category, Appliance Type and Approval Number 2 1.2 General Description 2 1.3 Explanation of Model Code 2 1.4 Dimensions 3 1.5 Appliance design 3 1.6 Technical characteristics 4 2. Preconditions for installation 2.1 Regulations 5 2.2 Location 5 2.3 Fixing the appliance 5 2.4 Water connection 5	2.5 Gas connection 5 2.6 Flue 6 2.7 Commissioning 6 3. Operation and maintenance 3.1 Function 7 3.2 Water temperature control 7 3.3 Appliance adjustments 7 3.4 Maintenance 7 3.5 Purge the appliance 7 3.6 Flue gas safety device 7 3.7 Converting to a different gas type 8 3.8 Troubleshooting 8 4. Operation 12
--	---

1. Technical Characteristics and Dimensions

1.1 Category, Appliance Type and Approval Number



MODEL	COUNTRY	CATEGORY
WR8/11 P...	BE, CH, ES, FR, GB, IT, PT, LU, HR	I ₃₊
	NL, DE	I _{3B/P}
TYPE	B _{11BS}	

1.2 General Description

This water heater is fitted with a piezo system.

Guaranteed safety provided by:

- Gas-tight ionisation detector that prevents escape of gas if there is no flame.
- Flue gas safety device that switches off the appliance if the flue is not functioning properly.
- Temperature limiter which protects the heat exchanger against overheating.

Heat exchanger has no tin/lead lining.

Automatic water valve made of glass-fibre reinforced polyamide, 100% recyclable.

Automatic control of water flow maintains constant flow rate even with fluctuating supply pressure.

Proportional adjustment of gas and water flow rates in order to ensure an even temperature gradient.

Gas valve with adjustable output via a slide control.

1.3 Explanation of Model Code

W	R	8	P	31	S...
W	R	11	P	31	S...

W Gas instantaneous water heater

R Proportional output control

8 Flow rate (l/min)

P Piezo ignition

31 LPG (butane/propane)

S... Country code

1.4 Dimensions

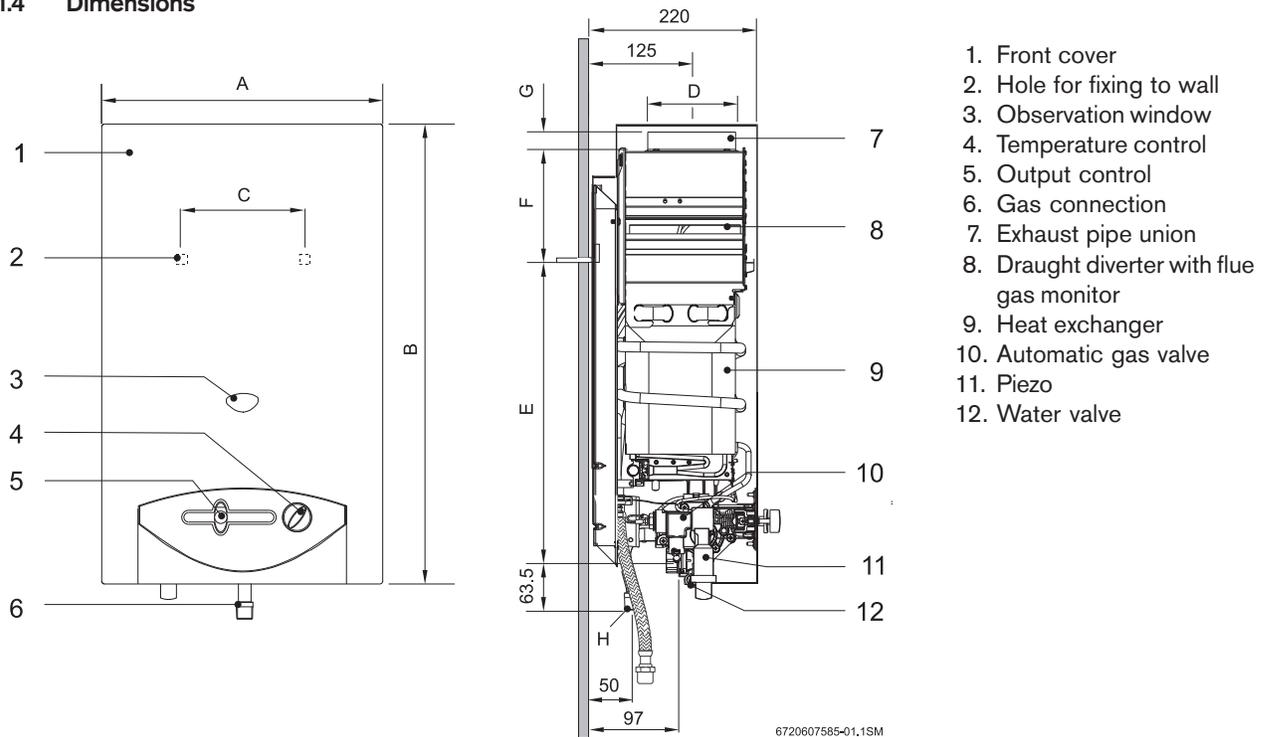


Fig. 2

Dimensions (mm)	A	B	C	D	E	F	G	H (Ø)
								LPG
WR8..P...	310	580	228	112,5	463	60	25	3/4"
WR11..P...								

1.5 Appliance design

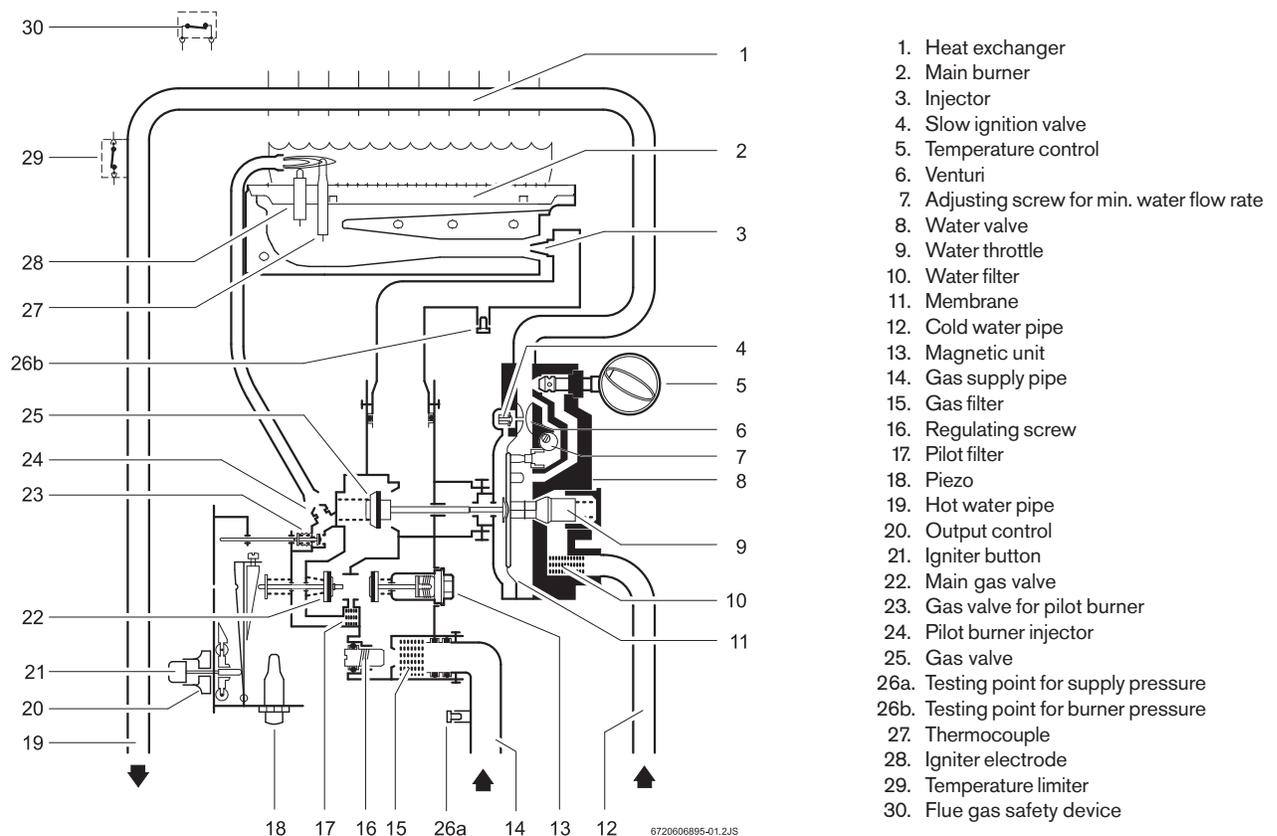


Fig. 3

1.6 Technical characteristics

	Technical Data	Symbol	Unit	WR8	WR11	
Output and heat demand	Rated max. heat output	P_n	kW	11.8	19.2	
	Rated min. heat output	P_{min}	kW	7.0	7.0	
	Output (modulation range)		kW	7.0 - 11.8	7.0 - 19.2	
	Rated max. heat input	Q_n	kW	13.5	21.8	
	Rated min. heat input	Q_{min}	kW	8.1	8.1	
Gas supply specifications *	Supply pressure					
	LPG (butane/propane)	G30/G31	mbar	28-30/37	28-30/37	
	Consumption					
	LPG (butane/propane)	G30/G31	kg/h	1	1.6	
Water system specifications	Max. water pressure**		P_w	bar	12	12
	Temperature control at maximum setting					
	Temperature increase			°C	50	50
	Flow rate			l/min	3.5	5.5
	Min. operating pressure		P_{wmin}	bar	0.1	0.1
	Temperature control at minimum setting					
	Temperature increase			°C	25	25
	Flow rate			l/min	7	11
Min. operating pressure			bar	1	1	
Flue specifications***	Draught requirement			mbar	0.015	0.015
	Flow rate			g/s	13	13
	Temperature			°C	170	170

* H_2 15°C - 1013 mbar - dry : LPG: Butane 45.7 MJ/kg (12.7 kWh/kg)

Propane 46.4 MJ/kg (12.9 kWh/kg)

** This figure must not be exceeded taking account of water expansion

*** At maximum rated heat output

2. Preconditions for installation

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

2.1 Regulations

Gas safety (installation & use) Regulations 1998.

It is the law in GB that a competent Person in accordance with the above regulations installs all gas appliances.

Failure to install appliances correctly could lead to prosecution.

It is in your interest, and that of safety, to ensure compliance with the law.

Caravan & holiday homes:

the installation must meet the following standards Bs 5482:2 LPG and EN721 ventilation.

2.2 Location

The appliance should be sited in a well ventilated room where it will not be exposed to temperatures below freezing.

To prevent corrosion, the combustion air must not contain any corrosive substances. Substances classed as corrosion-promoting include halogenated hydrocarbons such as are found in solvents, paints, adhesives, aerosol propellants and various household cleaners. Appropriate measures should be taken where necessary.

With the exception of the flue pipe, the surface temperature of the appliance is below 85 °C. No special safety measures are therefore necessary.

Site appliance as shown in Fig. 5.

Always site appliance in a location not exposed to temperatures below freezing. If this is not possible, the appliance must be switched off and drained and the batteries removed whenever there is a risk of freezing.

Do not install the appliance in rooms where the free volume is less than 8 m³.

Air admission

The room where the appliance is to be installed should be provided of fresh air inlet areas according with the below table.

Appliance	Minimum area
WR 8	≥ 60 cm ²
WR 11	

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

2.3 Fixing the appliance

Remove the temperature control and the output control.

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.

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

2.4 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 hot water (fig.4, pos.B) and cold water pipes (fig.4, pos.A) so as to prevent confusion.

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

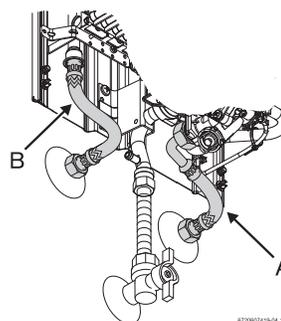


Fig. 4 Water connection

To prevent problems caused by sudden pressure fluctuations in the water supply, it is advisable to fit a non-return valve to the water outlet.

2.5 Gas connection

Take care to ensure dirt is not allowed to enter gas inlet.

Make sure that the type of gas specified on the appliance type plate is the same as that supplied by the gas authorities. Select pipe diameter to suit output of instantaneous water heater being installed.

Fit gas service cock as close to appliance as possible.

2.6 Flue

It is absolutely essential that all instantaneous water heaters are connected to a suitably dimensioned flue pipe by means of a gas-tight connection.

The flue pipe should be made of galvanised iron, aluminium, stainless steel or fibre concrete. Fit as shown in Fig. 5.

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.

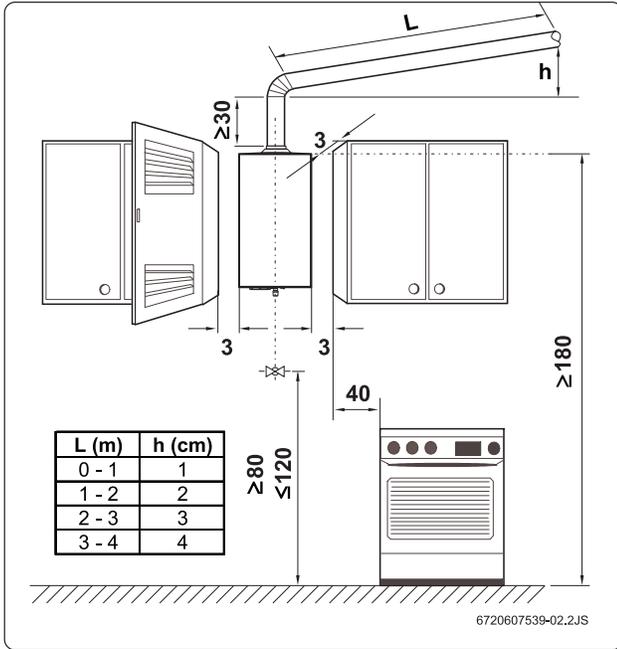


Fig. 5 Minimum distances (cm)

2.7 Commissioning

Turn on the gas and water cocks and check all connections for leaks.

Check flue gas safety device good functioning, proceed as explained in section 3.6.

3. Operation and maintenance

Sealed parts must not be interfered with.

3.1 Function

This water heater is fitted with piezo ignition that provides for easy commissioning.

In first place it must dislocate the output control of the off position to the ignition position (see fig. 7).

Press in the slide control knob and subsequently press the piezo button. Release the slide control after about 15 seconds, if the pilot flame does not stay alight, repeat the operation.

Ignition may not be successful due to the presence of air inside the gas supply pipe, especially if first connected or after long inactive periods. In this case, keep the output control knob fully depressed until the gas pipe has been totally purged.

Slide the gas control slide fully to the right to obtain maximum output. Sliding the gas control slide to the left reduces the output.

In order to optimise energy consumption, adjust the output control to supply the minimum output required.

After following these procedures, ignition of the main burner will automatically take place whenever you turn on a hot water tap, since the pilot burner is permanently alight.

When you want to switch off the heater, move the slide control to the far left. After a few seconds the pilot flame will go out.

If there is a risk of freezing, switch off the appliance and drain the appliance.

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

3.2 Water temperature control

The water temperature control is used to adjust the water flow rate, and thereby the water temperature, to the desired setting.

Turning the control clockwise reduces the water flow rate and increases the temperature; turning the control anti-clockwise increases the water flow rate and reduces the temperature.

If the temperature is set only as high as required, energy consumption is reduced and the likelihood of scale deposits in the heat exchanger minimised.

3.3 Appliance adjustments

All instantaneous water heaters are factory-adjusted and require no further adjustment.*

Water heaters that use LPG (liquefied petroleum gas, i.e. butane/propane) are set to the operating pressure stated on the identification plate (28-30/37 mbar).

Natural gas appliances are set to a Wobbe Index of 15 kWh/m³ and a supply pressure of 20 mbar.

* **Sealed components must not be tampered with.**

3.4 Maintenance

The appliance should only be serviced by an approved engineer.

A complete overhaul should be carried out after two years. The overhaul should involve thoroughly cleaning the heat exchanger, burner, pilot burner and automatic water valve filter.

If necessary, the inside of the heat exchanger and the connecting pipes should be descaled.

Check the gas and water valves for leaks and carry out a complete function check.

If components need to be replaced, **use only genuine Bosch spare parts.**

3.5 Purge the appliance

If there is a risk of freezing, proceed as follows:

Remove the retaining clip from threaded bushing (pos.1).

Remove threaded bushing (pos. 2) from water valve.

Empty the appliance of all water.

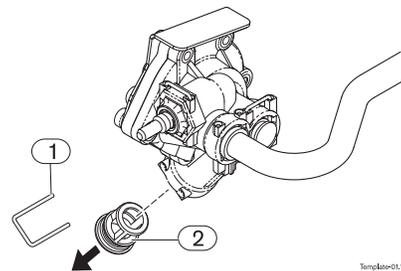


Fig. 6 Purge the appliance

3.6 Flue gas safety device

The recommission must be done from a qualified technician only.

The flue gas safety device must not under any circumstances be switched off, simulated or replaced by any other component.

Operation and safety precautions

The flue gas safety device checks the effectiveness of flue gas extraction by the flue. If it is inadequate, the appliance switches off automatically so that the combustion fumes do not escape into the room in which the appliance has been installed. The flue gas safety device resets after a cooling-down period.

If the appliance shuts down while in operation, ventilate the room. Wait about 10 minutes then restart the appliance. If the problem recurs, call an engineer. The user must never make any modifications to the appliance.

Maintenance

If faults occur on the flue gas safety device, proceed as follows:

- Undo flue gas safety device fixing screw.
- Unplug igniter unit connector
- Unplug battery connector

Replace damaged component with new one and refit using the reverse of the procedure set out in the text above.

Function check*

Flue gas safety device function check:

- Disconnect flue pipe
- Replace with pipe (about 50 cm long) with sealed end
- Fit pipe vertically
- Start up appliance at rated output and set temperature control to maximum temperature.

Under those conditions, the appliance should shut down after two minutes. Remove temporary pipe and reconnect flue pipe.

* This work may only be carried out by an approved engineer.

3.7 Converting to a different gas type

Use only the **genuine Bosch conversion kit**. Conversion may only be carried out by an approved technician.

3.8 Troubleshooting

Installation, servicing and repairs may only be carried out by an approved engineer.

The following table illustrates only a few solutions to straightforward problems.

Problem	Cause	Solution
Pilot flame stay alight. Several attempts required to turn pilot flame on. Yellow pilot flame.	Blocked pilot burner.	Clean.*
Flame goes out while appliance is in operation.	Flue gas safety device has tripped Temperature limiter has tripped.	Ventilate room. Wait 10 minutes then restart appliance. If problem recurs, call an approved technician. Wait 10 minutes then restart appliance. If problem recurs, call an approved technician.
Water not hot enough.		Check output selector position and regulate according with needs.
Water not hot enough, weak flame.	Gas supply dynamic pressure too low.	Check gas cylinder governor and replace if incompatible or damaged. * Check whether gas cylinder (butane) is freezing when appliance is in operation and re-site in warmer location if necessary.
Reduced water flow rate.	Inadequate inlet flow rate. Dirt in water service cock or mixer unit. Automatic water valve clogged. Heat exchanger clogged (scale).	Check and adjust. Check and clean. Clean filter.* Clean and descale as necessary.*

The operations marked with “*” may only be carried out by an approved technician

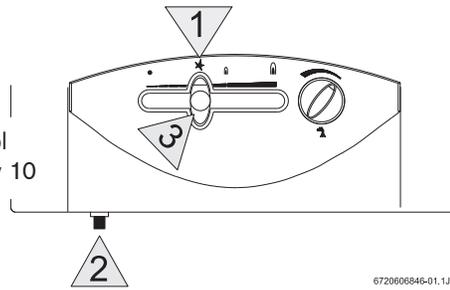
4. Operation

Turn on all gas and water taps
Purge air from pipes

Ignition

Depress slide control knob and hold it in

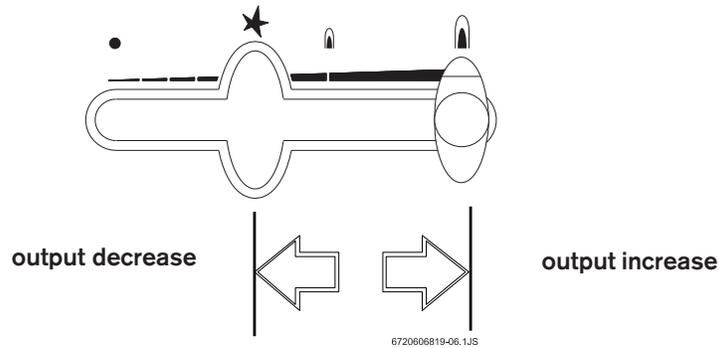
Release the slide control knob after approximately 10 seconds



Press the piezo igniter

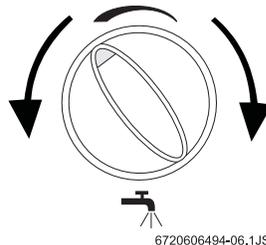
Repeat these steps if the flame does not stay alight

Output Control



Temperature adjustment

Turning control anti-clockwise
increases water flow rate and
reduces water temperature



Turning control clockwise
reduces water flow rate and
increases water temperature

Switching off

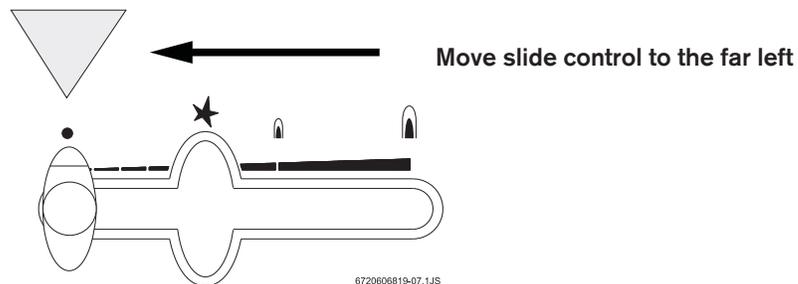


Fig. 7