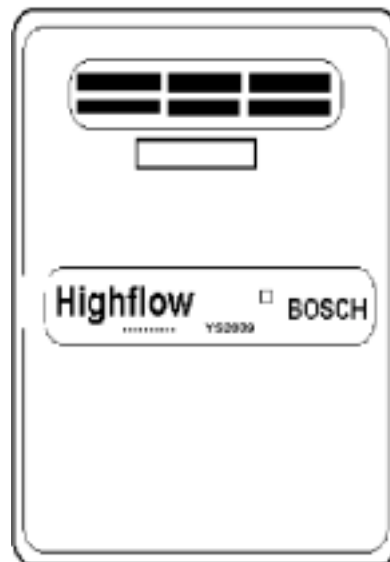


MODELS

BOSCH 16E & BOSCH 18E

INSTALLATION AND USER HANDBOOK



INDEX

	<i>Page Number</i>
Dimensions	3
Technical Data	4
Appliance Location	5
Component Details	6
Gas Connection	7
Cold Water Connection	7
Hot Water Connection	8
Electrical Connection	8
Pre Set Temperature	8
Kitchen Temperature Selector Pad	9
Bathroom & Ensuite Temperature Selector Pad	10
Temperature Selector Pads Installation	11
Temperature Selector Pad Wiring	12
Temperature Selector Pads Operation	13
Commissioning & Testing	13
Temperature Setting	14
USER SAFETY INSTRUCTIONS	15
In Case Of Difficulties	15
Warranty Details	16

This appliance must be installed in accordance with the manufacture's installation instructions, AG601, AS3500.4.2, AS3000 wiring regulations and all Local Building, Water and Gas fitting

**To be installed and serviced only by an authorised person
This appliance is not suitable for use as a pool heater**

The "authorised installing person" is responsible for:

1. Correct commissioning of this appliance.
2. Ensure unit performs to the specifications stated on the rating label.
- 3.. Demonstrate operation of unit to customer before leaving.
4. Hand these instructions to customer.

Failure to install this appliance in accordance with these installation instructions may void warranty

The Bosch 16E & 18E are external electronically controlled gas hot water heaters. The Bosch 16E & 18E are supplied set to operate without temperature selector pads at a constant 50°C outlet temperature. To set the appliances to a different temperature refer to page 14 for details.

Available as optional extras are Kitchen, Bathroom or Ensuite temperature selector pads, refer to page 8 for details.

Although three different temperature selector pads are available, a maximum of **two** controls only can be fitted to the appliance. Example:- Kitchen and Bathroom controllers, or Bathroom and Ensuite for two bathrooms.

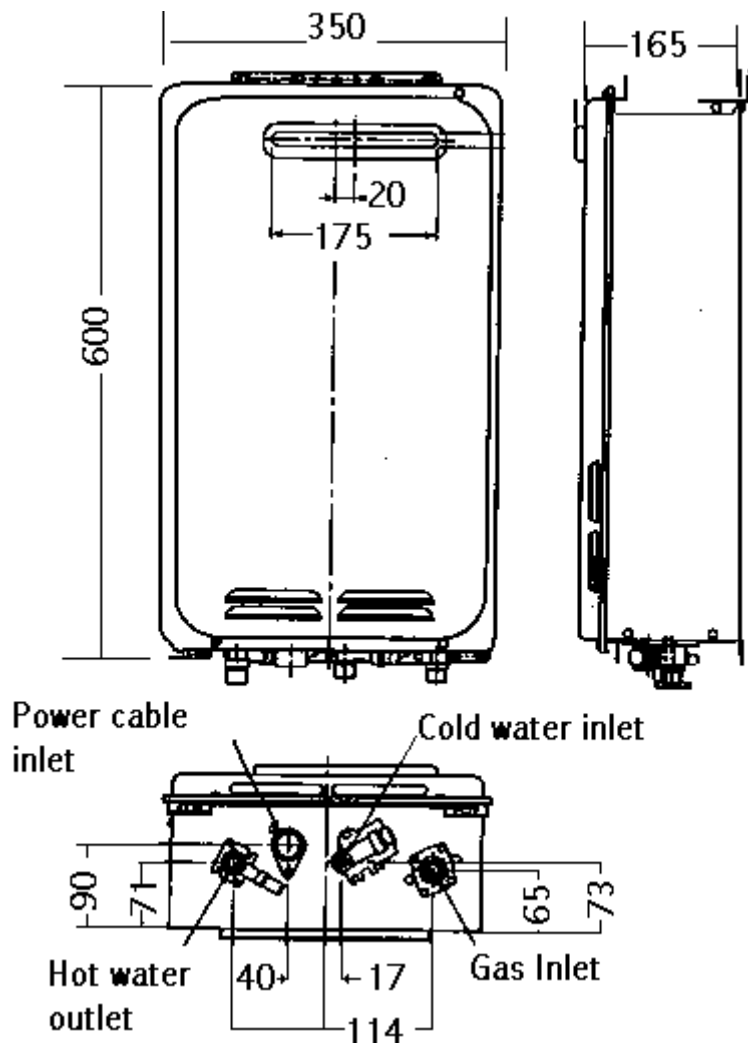
Only one of each type can be connected to the appliance

The bathroom and ensuite temperature selector pads have a maximum temperature setting of 50°C for safety. This ensures that the appliance complies with section G12 of the New Zealand Building Code and Australian Standard AS 3500.4.2 and therefore does not require a tempering valve to be fitted.

Note if the 75°C kitchen control is installed a tempering valve must be fitted.

Before installing this appliance carefully check that all packing materials have been removed and that the appliance is correct for the gas supply to which it is to be connected

DIMENSIONS



TECHNICAL DATA

	BOSCH 16E	BOSCH18E
Nominal hourly gas consumption by proportional gas control	125MJ/H	150MJ/H
Test Point Pressure kPa		
Natural Gas	0.41	0.54
LPG	0.37	0.54
Water Heating capacity raised 25°C litres/minute	16	18
Maximum Inlet Water Pressure	800 kPa	
Fixed injector orifice for both Natural and LP Gas		
Input voltage single phase 50Hz	240 Volt	
Maximum output current	1 Amp	
AGA Approval certificate number		
Inlet gas connection male thread	18mm	
Cold water connection male thread	18mm	
Hot water connection male thread	18mm	
Relief valve pressure setting	1600 kPa	

DATA PLATE

Fitted inside of front cover

GAS TYPE

The gas type is nominated on a temporary label located on the front cover, and on the data plate located inside the front cover. The gas type is the gas on which this appliance is designed to operate.

DO NOT OPERATE WITH ANY OTHER GAS TYPE.

HEATER DIMENSIONS:	DEPTH	165 mm
	WIDTH	350 mm
	HEIGHT	600 mm

POSITION FOR INSTALLATION

The heater must be installed by using a fixing method sufficient to hold the 15Kg weight of unit (see the technical sheet for dimensions of mounting brackets and positions)

N.B On combustible surfaces e.g. weatherboards etc. it is not required to install a fire proof back board.

WARNING LABELS

Located on the front of the cabinet
PLEASE READ THESE LABELS CAREFULLY

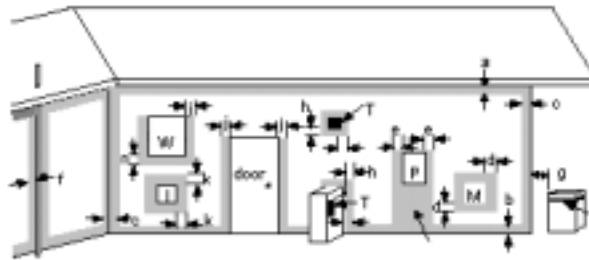
APPLIANCE LOCATION

- (1) This water heater is approved for outdoor installation only.
- (2) Do not install this water heater with any modification or alteration.
- (3) Do not install this water heater indoors or in an enclosed space.

WARNING: FLUE OUTLET MUST BE FREE FROM ANY COMBUSTIBLE MATERIAL.

CLEARANCES FOR FLUE TERMINAL (front of heater)

The location of the flue terminal must comply with the clearances shown on this page. If you are unsure about clearances not indicated here, in general refer to AG601, or your local authority. In Western Australia refer to the SECWA rules and regulations.

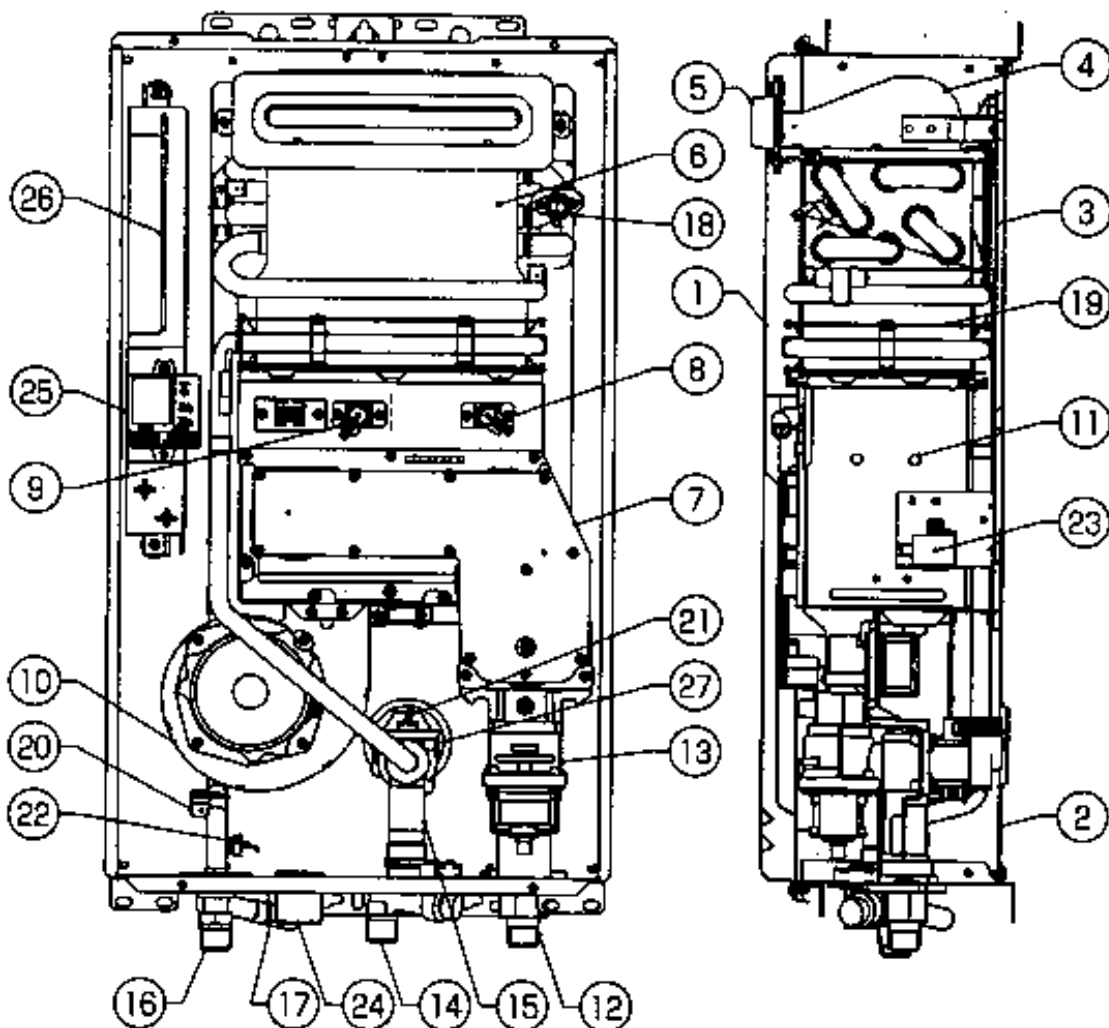


T = Flue Terminal M = Gas Meter Shaded area indicates prohibited area
I = Mechanical air inlet P = Electrical meter or fuse box W = Window

Ref	Item	Clearance mm	
		Natural draft	Fan assisted
a	Below eaves, balconies and other projections		
	Appliances up to 50MJ/h input	300	200
	Appliances over 50 MJ/h input	500	300
b	From the ground, above a balcony or other surface	300	300
c	From a return wall or external corner	500	300
d	From a gas meter	1000	1000
e	From an electricity meter or fuse box (P)	500	500
f	From a drain pipe or soil pipe	150	75
g	Horizontally from any building structure or obstruction facing a flue terminal	500	500
h	From any other flue terminal, cowl, or combustion air intake	500	300
j	Horizontally from an opening window, door, non-mechanical air inlet. Or other opening into a building with the exception of sub floor ventilation		
	Appliances up to 150 MJ/h	500	300
	Appliances over 150MJ/h input up to 200 MJ/h input	1500	500
	Appliances over 200 MJ/h input	1500	1500
	All fan assisted flue appliances in the direction of discharge		1500
k	From a mechanical air inlet, including spa blower	1500	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:		
	Space heaters up to 50 MJ/h	150	150
	Other appliances up to 50 MJ/h	500	500
	Appliances over 50 MJ/h and up to 150 MJ/h input	1000	1000
	Appliances over 150 MJ/h input	1500	1500

Extract from AG601 For use as a guide only. Refer to AS5601/AG601 for clearance

COMPONENT DETAILS



- | | | | | | |
|---|-------------------|----|-----------------------|----|-----------------------|
| 1 | Front panel | 10 | Combustion fan | 19 | Thermal fuse |
| 2 | Rear panel | 11 | Combustion chamber | 20 | Anti frost element |
| 3 | Heat deflector | 12 | Gas inlet | 21 | Cold inlet thermistor |
| 4 | Flue baffle | 13 | Gas solenoid | 22 | Hot water thermistor |
| 5 | Flue terminal | 14 | Cold water inlet | 23 | Igniter |
| 6 | Heat exchanger | 15 | Water flow sensor | 24 | Power cable inlet |
| 7 | Burner manifold | 16 | Hot water outlet | 25 | Earth leakage cutoff |
| 8 | Ignition plug | 17 | Pressure relief valve | 26 | Printed circuit board |
| 9 | Flame sensing rod | 18 | Temperature limiter | 27 | Water flow regulator |

GAS CONNECTION

- (1) Fit a union to the water heater gas inlet for easy connection and removal. The thread diameter is 18 mm. **THIS DOES NOT INDICATE THE SIZE OF THE GAS SUPPLY.**
- (2) Fit an AGA approved isolating gas cock in the supply line adjacent to the water heater gas connection.
- (3) Ensure that the supply pipe and the gas pressure regulator (LPG or Natural Gas) has sufficient flow capacity for this and other appliances connected to the fitting line.
- (4) For LPG appliances ensure that gas cylinders are of sufficient size. The water heater alone will require 2 x 45 Kg capacity cylinders.
- (5) Before connecting the appliance to the gas service, purge any debris or air from the gas service.
- (6) Check all joints for leaks with an approved leak tester after connection.

**Refer to AGA 601 Installation Code for pipe sizing details. For your assistance we have included the following pipe sizing from AGA 601.
FOR COPPER TUBE USING NATURAL GAS**

NOMINAL PIPE SIZE IN MM	LENGTH OF STRAIGHT IN METRES	HOURLY RATE. RATE IN Mj/H
13 mm	4	43
18 mm	4	82.2
20 mm	4	142
25 mm	4	313

THE BOSCH 16E & 18E REQUIRES A MINIMUM OF 125 & 150 MJ FOR THE CUSTOMER TO GET THE PERFORMANCE BENEFIT.

SERVICE CALLS ARE CHARGEABLE FOR UNITS WITH INCORRECT PIPE SIZES OR BLOCKED GAS OR WATER FILTERS.

COLD WATER CONNECTION TO WATER HEATER

Refer to technical sheet for position of connections. Minimum of 18 mm copper tube should be connected to the appliance. The WATER INLET connection is 18 mm $\frac{3}{4}$ " BSP and requires a union to allow for removal of the water heater. Pipe sizing from the cold water supply should be sized according to local BY LAWS for water supply.

If sludge or foreign matter is present in the water supply it is recommended that a separate filter/strainer be fitted to the cold water supply line.

ISOLATING GATE VALVE

A GATE VALVE OR BALL VALVE must be used on the cold water inlet to the water heater. THIS REQUIREMENT IS AN AUSTRALIA WIDE REQUIREMENT UNDER THE NATIONAL PLUMBING CODE.

STOP TAPS OR COMBINATION STOP TAPS AND NON-RETURN VALVES ARE NOT TO BE USED.

N.B NO PRESSURE REDUCTION VALVE IS REQUIRED UNLESS THE WATER PRESSURE EXCEEDS 800 KPA

HOT WATER CONNECTION TO WATER HEATER.

Refer to Technical Sheet for position of connection. The outlet connection is 18 mm (¾" BSP) MALE thread, and requires an isolating union to allow for removal of the unit.

Install the hot water supply line to the unit in a minimum of 18 mm copper tube.

Keep the pipe lengths to a minimum, and make sure that the pipework is well insulated, as correct performance of the appliance is dependent on properly insulated pipework.

DO NOT FIT ANY VALVES OR RESTRICTORS TO THE OUTLET OF THE WATER HEATER.

DO NOT FIT ANY OBSTRUCTION TO THE PRESSURE RELIEF LOCATED ON THE HOT WATER OUTLET CONNECTION.

After purging the air from the system using the hot water supply taps, remove the water inlet strainer located on the cold water supply inlet connection. Remove any debris from the filter and replace. When replacing the filter, do not overtighten the "O" ring seal.

ELECTRICAL CONNECTION

The appliance is equipped with a three pinned earthed plug to be connected to a 240V, 50Hz supply. The electrical rating of the appliance is 0.4 Amps

The appliance requires a 240V, 50Hz weatherproof plug installed in a protected position adjacent to the appliance.

IMPORTANT: The appliance should always be disconnected from the power supply before any maintenance is carried out. If the power cord is damaged and requires replacement, use only an original spare part available from the manufacturer.

PRE-SET TEMPERATURE

The Bosch 16E & 18E are factory pre-set to operate at 50°C without temperature selector pads. The pre-set temperatures can be altered to 40°C, 43°C, 55°C, 60°C, 65°C or 75°C by changing the setting of the CPU. Refer to page 14 for details.

The appliance can also be fitted with temperature selector pads, available as an accessory item. When fitted, the hot water will be delivered at the temperature displayed on the selector pad.

Although three different temperature selector pads are available, a maximum of **two** controls only can be fitted to the appliance. Example:- Kitchen and Bathroom controllers, or Bathroom and Ensuite for two bathrooms.

Only one of each type can be connected to the appliance.

Kitchen controller	YPRM47XB	Maximum temperature 75°C
Kitchen controller (NZ only)	YPRM55XB	Maximum temperature 55°C
Bathroom controller	YPRS 47XB	Maximum temperature 50°C
Ensuite controller	YPRP 47XB	Maximum temperature 50°C

IMPORTANT

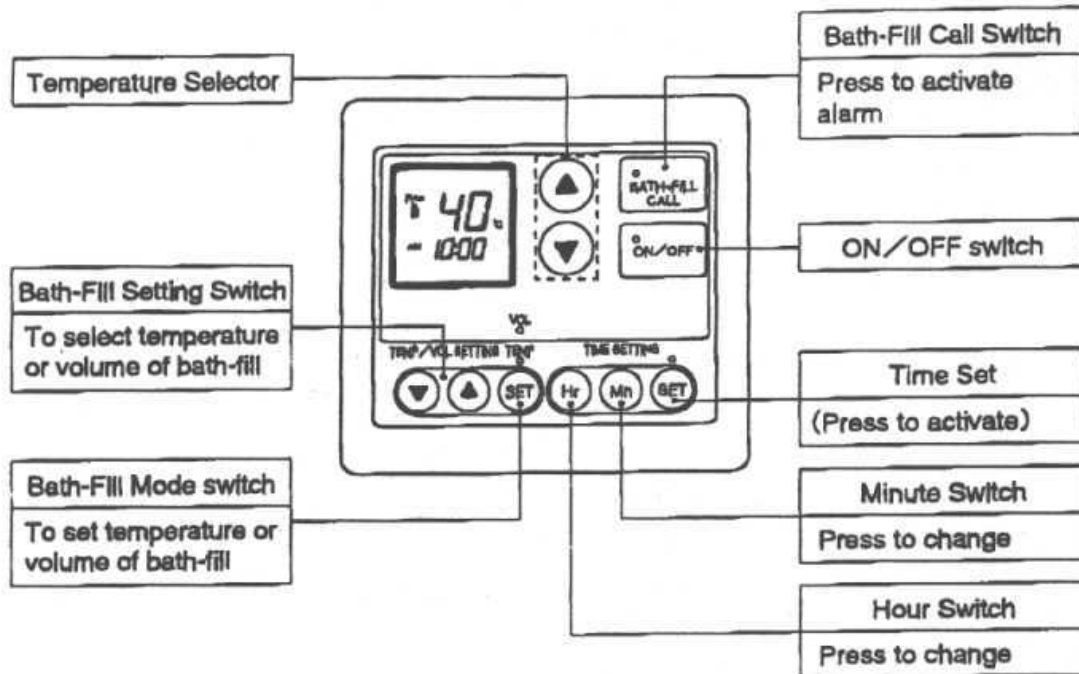
Do not locate the temperature selector where they may come into contact with water.

Do not position the temperature selector in the vicinity of chemicals

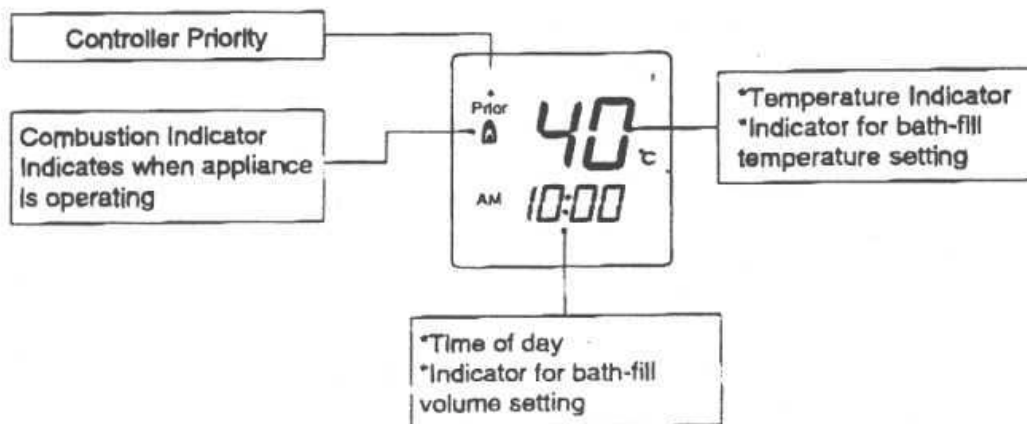
Do not position the temperature selector over a cooker, grill oven or toaster.

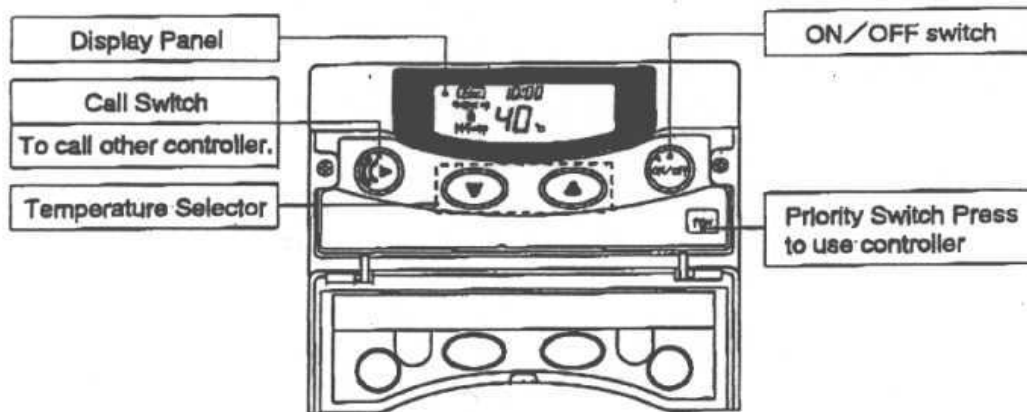
Do not position the temperature selector where materials may spill on to them.

KITCHEN TEMPERATURE SELECTOR PAD

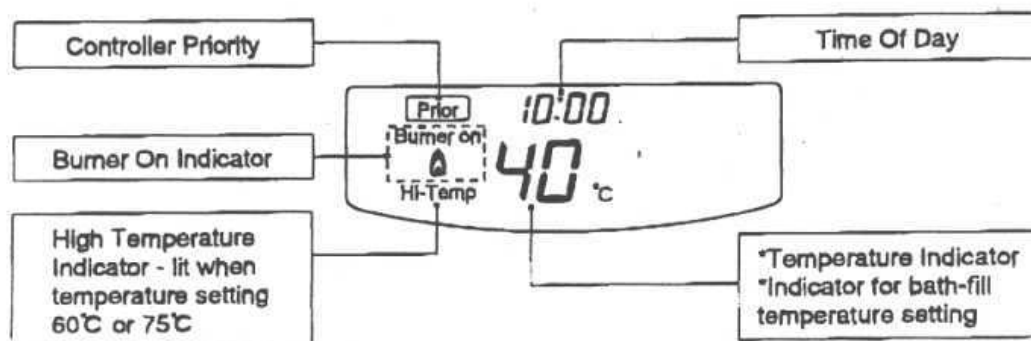


[Example] set temperature = 40°C, time = AM10:00



BATHROOM & ENSUITE TEMPERATURE SELECTOR PAD

[Example] set temperature = 40°C, time = AM10:00



TEMPERATURE SELECTOR PAD INSTALLATION DETAILS**Kitchen control**

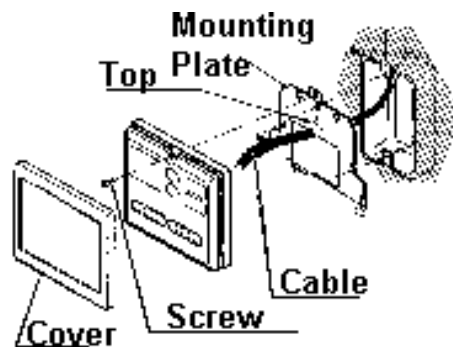
Select a suitable flat, dry location away from direct sunlight. (direct sunlight could make it difficult to see display)

Securely attach the mounting plate to the wall, cut opening in wall through centre of mounting plate, pull cable from wall cavity through centre of the mounting plate.

Attach cable to control, locate control over two hook retainers on mounting plate and slide control down.

Secure control to mounting plate with screw provided, and refit front cover.

Ensure that sufficient cable length is left to remove control if necessary, take care cable is not caught between mounting plate and control.

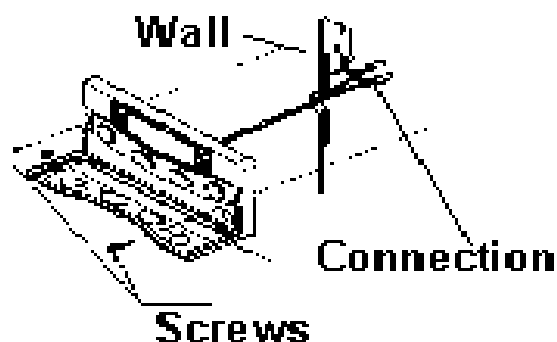
**Bathroom & Ensuite Control**

Select a suitable flat, dry location. (Do not install control in shower cubicle.)

The temperature selector is secured to the wall using the two screws provided. To mount the control flush with the wall drill a hole to clear the 28mm threaded socket or if installing on a solid wall break or cut the socket off using pliers, take care not to damage the wiring.

Secure control to mounting plate with screw provided.

Ensure that sufficient cable length is left to remove control if necessary, take care cable is not caught between wall and the control



KITCHEN TEMPERATURE SELECTOR PAD

The main temperature selector is fitted using the mounting plate supplied. This temperature selector must be wired from the rear through the wall cavity, the electrical cable is secured to the terminals using the two "Y" connectors.

Under no circumstances should the electrical wire be exposed.

BATHROOM TEMPERATURE SELECTOR PAD

The shower temperature selector is secured to the wall using the screws provided. To mount the control flush with the wall drill a hole to clear the 28mm threaded socket or break the socket off using pliers, take care not to damage the wiring.

Join the two wires from the back of the temperature selector pad must be connected to the wiring from the appliance in the wall cavity using the interconnection plug supplied. Leave sufficient wire for removal and disconnection.

Under no circumstances should the electrical wire be exposed.

ENSUITE TEMPERATURE SELECTOR PAD

Refer to Bathroom Temperature Selector instructions

CONNECTION OF WIRING TO BOSCH 16E & 18E

Remove the front cover of the Bosch 16E & 18E cabinet. Install the wiring through the power cable inlet point.

Secure the wiring to the cable clamps provided on the plate adjacent to the terminal block, attach the wiring to the plate. Then attach the terminals to the correct wires from the remote control:

Refer page 11 & 12 for details

Replace the appliance front cover, attach the earth wire and connect the power plug to 240V supply.

TEMPERATURE CONTROL OPERATION

Turn the main temperature selector on by pressing the Operation switch on the temperature selector to the ON position, the control will display 40°C. Adjust the setting control switch if a different temperature is required.

To transfer operation to the bathroom or ensuite control press the priority switch on the bathroom or ensuite control and adjust the temperature as required.

The appliance can also be switched on at any of the selectors by pressing the on button

Refer to pages 9 & 10 for more details

COMMISSIONING AND TESTING

After completing the installation of the unit, turn on the water, power and gas supplies to the unit.

BURNER PRESSURE ADJUSTMENT

No adjustment should be necessary providing the gas inlet pressure is correct. Burner pressure adjustment is necessary when converting to a different gas type or replacing the PCB. Refer to service manual for details..

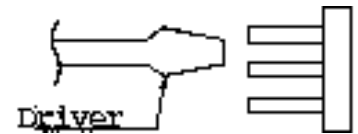
N.B. The combustion fan continues to operate for approximately 7 minutes after the unit is turned off. This is normal, not a fault.

TEMPERATURE SETTINGS

To set the maximum temperature that the water heater will deliver without temperature controls, or to limit the maximum temperature that can be selected at a temperature control use the following procedure.

- 1 Turn on the power to the water heater.
- 2 Turn all eight dip switches off.
- 3 Turn switch 3 on.
- 4 Short two of the three pin terminals together. (1 & 2 or 2 & 3)
5. While two of the pins are shorted the green LED will flash

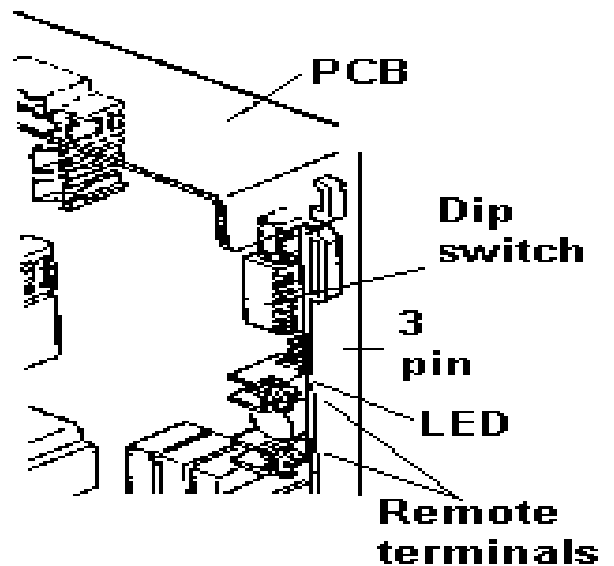
One	40°C
Two	43°C
Three	50°C
Four	55°C
Five	60°C
Six	65°C
Seven	75°C



When the LED has flashed the number of times for the desired temperature remove the short between the two pins.

6. Turn switch three off.
7. Turn switch two on, the LED will flash to confirm the pre-set temperature.
8. Turn switch two off.
9. Turn switch eight on.

Setting complete



Note: A tempering valve (RMC valve. Model TVA 50HP) must be installed to all sanitary outlets if the default temperature is set higher than 50°C (55°C for New Zealand)

USER SAFETY INSTRUCTIONS

PLEASE READ CAREFULLY THIS USER INSTRUCTION BEFORE USER.

You have selected the Bosch 16E or 18E computer controlled hot water unit. The following instructions will assist you to obtain the best performance from your Bosch 16E or 18E.

SAFETY

1. **Always check water temperature by hand before entering the shower or bath. The temperature may have been changed.**
2. **Do not touch cover or flue outlet when the Bosch 16E & 18E is in operation.**
3. **Keep flammable materials, trees, shrubs etc. away from the Bosch 16 E & 18E**
4. **Water flow needs to be more than 3L/min. to operate the Bosch 16E & 18E Hot water temperature may vary at low water flows, or the `Bosch 16E & 18E may go out without warning.**
- 5 **Warning - If the appliance does not operate, burns with yellow flame, leaks water or a gas smell is evident, turn off and contact the local gas authority, the manufacturer or an authorised service person.**

IN CASE OF DIFFICULTIES

If the Bosch 16E & Bosch 18E ceases to operate please check that the electricity supply is available (check for display of temperature at control pad or plug in a portable appliance) also check that the gas supply is turned on.

If a fault develops there are no user adjustments or serviceable components contained in this appliance please contact an authorised service person.

Warranty Details For Model BOSCH 16E & BOSCH 18E

Your Bosch Hot Water Unit is guaranteed as follows:

For appliances used in domestic applications, ie. Normal hot water drawn from household outlets, the warranty period is three (3) years parts and labour. The heat exchanger is covered for a period of ten (10) years (part only, for the original supplied with the appliance, not warranty replacements). Purchased spare parts are guaranteed for 12 months, replacement only.

For appliances used in commercial applications, the warranty period is twelve (12) months parts and labour including the heat exchanger.

The warranty period commences from the purchase date. Claims for warranty will only be accepted upon suitable proof of purchase submitted to Robert Bosch (Australia) Pty. Ltd. or an approved Bosch Service Agent authorised to carry out warranty repairs.

PURCHASER'S STATUTORY RIGHTS

The warranty terms set out below do not exclude any conditions or warranties which may be mandatorily implied by law, and your attention is drawn to the provisions of the Trade Practices Act, 1974, and State legislation which confers certain rights upon consumers. The ROBERT BOSCH (AUSTRALIA) PTY. LTD. Warranty supplements these.

EXTRACT OF TERMS OF DELIVERY AND SALE:

Warranty of products marketed by Robert Bosch (Australia) Pty. Ltd. herein referred to as RBAU.

- a) RBAU warrants products marketed by it as free from faults and defects and having the specified qualities according to the respective state of technology. Notwithstanding that the products may have been sold by description or sample the products shall be accepted by the Buyer even though alterations in design or construction have been generally introduced between the date of contract and the delivery of the products.
- b) The warranty shall be limited to the replacement or repair at the option of RBAU of any defective products and of such parts of RBAU's products as have been damaged in consequence of the defect despite proper treatment. Parts replaced will not be returned.
- c)
 - i) Repairs and maintenance shall not extend the warranty period of the appliance.
 - ii) If the product is located outside of the service agent's area, the consumer shall be responsible for the service agent's travelling costs, and if necessary the expenses of freight, packing and charges of a similar nature.

Without limiting the generality of these terms of delivery this warranty shall not apply to products sold in the following cases: ---

- i) if the products sold are repaired or altered by any third party without RBAU's consent.
- ii) where parts not manufactured or sold by RBAU are used in and replacement or repair.
- iii) if products are not used with proper care and for the purpose for which they are sold and in accordance with any specified instruction for use.
- iv) if changes occur in the condition or operational qualities of the products due to incorrect storage or mounting or due to climatic or other influences.
- v) in respect of faulty construction or defects due to the use of unsuitable materials if such method of construction or use of material has been specified by the Buyer.
- vi) in respect of surface coating and glass damage.
- vii) in respect of the replacement of parts when such replacements are part of the normal maintenance, service or normal wear and tear.

No servant or authorised service agent has authority to add to or alter the terms of this warranty.

PLEASE NOTE:- If a service call is requested and it is found that it is not a manufacturing fault, you may be charged for the call even during the warranty period.

ROBERT BOSCH (AUSTRALIA) PTY. LTD. (Incorporated in Victoria) Phone 1300 30 70 37

Vic. Cnr. Centre Road & McNaughton Roads, Clayton, Vic. 3168. Ph: 03 9541 5555

N.S.W. Cnr. James Ruse Drive & River Road West, Rosehill, NSW 2142. Ph: 02 9891 4388

S.A. 128 Main North Road, Prospect, S.A. 5082. Ph:08 8344 6888

Qld. 36 Turbo Drive, Coorparoo, Qld. 4151. Ph: 07 3891 1855

W.A. 150 Abernethy Road, Belmont, W.A. 6104. Ph: 08 9479 1166

N.Z. 14 - 16 Constellation Drive, Mairangi Bay, Auckland. N.Z. Ph: 09 478 6158