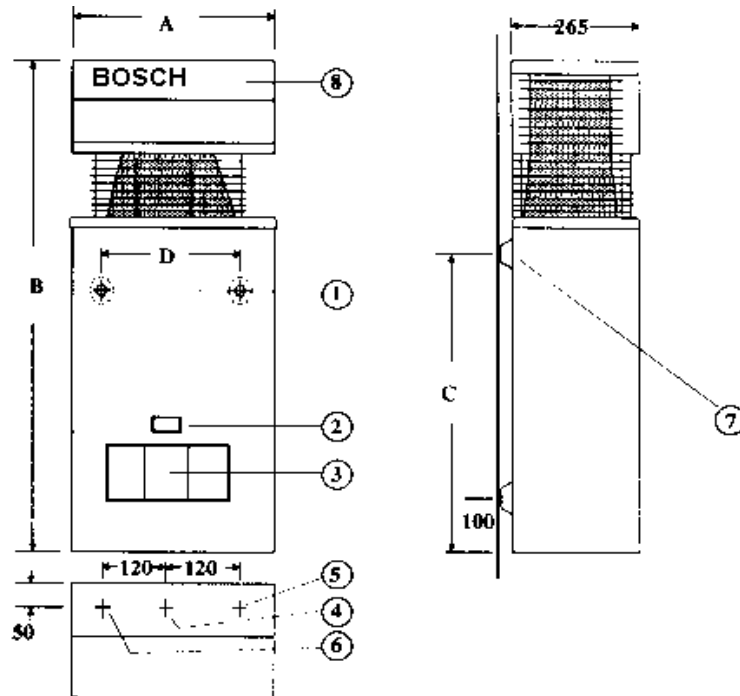


**BOSCH 13P & 16P**

Continuous Flow Gas Water Heater



- |                     |                    |
|---------------------|--------------------|
| 1 Main Cover        | 5 Cold Water Inlet |
| 2 Inspection Window | 6 Hot Water Supply |
| 3 Access Panel      | 7 Mounting Point   |
| 4 Gas Inlet         | 8 Horizontal Flue  |
- A-D Dimensions on page 2 Fig 3

Fig. 1

This appliance must be installed in accordance with the manufacturer's installation instructions, AG 601, NZ 5261, AS/NZS 3500.4.2 and all Local Water, Building and Gas fitting regulations

**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**

In the interest of continued product improvement, Bosch reserves their right to alter the specifications without notice.

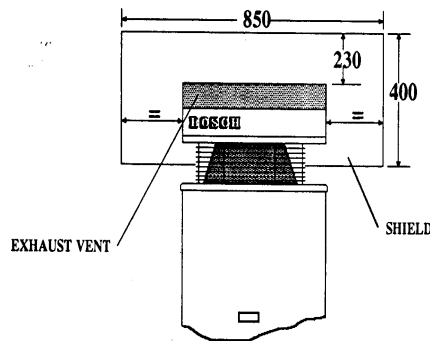
## **Installation**

Install only on an external wall, as close as possible to the most frequently used hot tap. Use a heat shield (accessory item part number 9 708 061 400) if the unit is to be installed on a combustible surface. Allow minimum air gap of 10 mm between the flue and the heat shield, (refer figure 2).

Ensure that the flue terminal is clear of any combustible material, and avoid installation in a marine environment.

Install the appliance such that the base of the appliance is not more than 1.3 metres and not less than 0.5 meters from the ground, and allow for easy access to service heater.

Secure heater to wall using two 10g X  $\frac{5}{16}$  hex head wood screws (Ramset 610041 or similar). Locate head of screw in the key hole of the top mounting bracket.



**Appliance Dimensions**

	A	B	C	D
13P	405 mm	845 mm	533 mm	240 mm
16P	460 mm	936 mm	550 mm	240 mm

**Figure 3**

## **Pipe Connections**

Refer to Fig. 1 for locations

Hot and Cold water  $\frac{1}{2}$ " male

Natural gas  $\frac{3}{4}$ " female

L.P. gas  $\frac{1}{2}$ " male

A gas cock must be installed in the gas supply line with provision to disconnect the appliance. Install gate valve or full flow ball valve (fixed mechanism type) in cold water supply.

**A non return valve must not be fitted. For example duo valve**

We recommend that all hot water pipes be lagged if the runs are long or exposed, and water-proof lagging should be used on all external hot water pipes. If the water supply pressure exceeds 80% of the specified maximum, install a pressure limiting valve.

If installing a pressure limiting valve fit a cold expansion valve between the limiting valve and the appliance. PLV = 500kPa Cold expansion = 700kPa

Refer to AG 601 and AS3500.1 for the relevant pipe size.

**NOTE:** Service calls for incorrect pipe sizing will **NOT** be covered under warranty.

## **Water Filter**

If sludge or foreign matter is or may be present in the water supply, it is recommended that a suitable filter be incorporated in the water supply line to the heater. All pipes should be well flushed before connection is made.

A water filter/strainer is installed in the inlet of the brass water valve inside the appliance.

## Characteristic Data

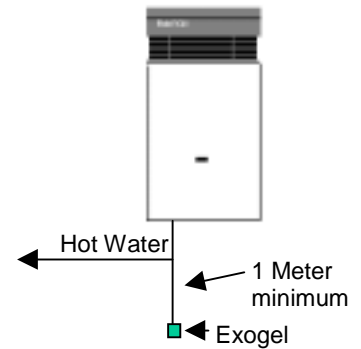
		<b>Bosch 13P</b>	<b>Bosch 16P</b>
<b>Pilot orifice diameter mm</b>	<b>NG</b>	<b>0.30</b>	<b>0.30</b>
	<b>LP</b>	<b>0.19</b>	<b>0.19</b>
	<b>TG &amp; TLP</b>	<b>0.56</b>	<b>N/A</b>
<b>Burner Injector Diameter mm</b>	<b>NG</b>	<b>1.25</b>	<b>1.30</b>
	<b>LP</b>	<b>0.79</b>	<b>0.75</b>
	<b>TG &amp; TLP</b>	<b>2.25</b>	<b>N/A</b>
<b>Minimum water pressure for maximum water flow</b>		<b>100 kPa</b>	<b>150 kPa</b>
<b>Maximum water flow litres per minute @ 25°C rise</b>		<b>13</b>	<b>16</b>
<b>Nominal hourly gas consumption Mj/h</b>		<b>100</b>	<b>130</b>
<b>Burner Pressure kPa</b>	<b>NG</b>	<b>0.87</b>	<b>0.71</b>
	<b>LPG</b>	<b>2.60</b>	<b>2.60</b>

Refer to rating label located on the bottom right hand corner of the back panel for additional data.

## Freezing Weather

In areas where the atmospheric temperature may drop below 0°C, the heater must be drained to prevent damage by expansion of freezing water. For appliances installed in locations where the temperature falls below zero ° C for brief periods, the installation of an EXOGEL expansion valve, part number H 707 060 151, will minimise the possibility of damage to the appliance.

This water heater **MUST NOT** be installed in areas where the temperature remains below 0°C for extended periods.



## Conversion and Spare Parts

For spare parts or conversion of the heater to operate on a different gas that for which it was originally manufactured, please contact your local gas authority, authorised service agent or the manufacturer

## Maintenance

We recommend that the appliance be inspected and cleaned by an authorised person periodically, depending upon the frequency and duration of its operation, but never less than once a year.

## Operating instructions

Procedure to light the appliance.

### Commissioning



If pilot flame is not alight then, repeat ignition procedure

### Operation



### Shutting off

(if no water is to be drawn for a longer period of time)



Fig. 4

To ensure that the water, at maximum water flow, will be of adequate temperature for sanitary purposes ( approx 40°C ), **the appliance must be adjusted by the plumber at the time of installation.**

When hotter water is required, ie dishwashing, simply reduce the flow of water at the tap and up to 60°C water will be delivered.

Refer to the commissioning section for adjustment details.

**Warning** -If the pilot light is extinguished, wait 5 minutes before attempting to relight the appliance. 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.

When attempting to light the appliance ensure that all hot water taps are turned off.

## **Commissioning**

The two most important points are to set the maximum water flow rate and to ensure the burner pressure is correct.

### **1. Water Flow**

The water flow must be adjusted so that when a hot water tap is opened fully the appliance has enough time to heat the water as it passes through the heat exchanger.

Open a hot water tap fully and adjust the water flow rate to the maximum rate.

Bosch 13P                      13 litres / minute  
Bosch 16P                    16 litres / minute

In cool areas where the cold water temperature drops below 15°C in Winter it will be necessary to set the water flow lower than the maximum rate.

Water Wizard 780            8 to 10 litres / minute  
Water Wizard 960            10 to 12 litres / minute

Adjust using the slotted head screw in the base of the brass water valve. Refer Fig.5 Turn screw clockwise to decrease flow rate (hotter water).

The time taken to fill a one litre container divided into 60 = litres a minute.

Example a one litre container fills in 6 seconds  
 $60 \div 6 = 10$  litres a minute.



Fig. 5

Adjustment

## **Commissioning**

### ***Burner Pressure Adjustment***

With the gas supply turned off, loosen the captive screw in burner pressure test point ( Position A Figure 6 ) on the left hand side of the burner manifold.

Attach a "U" tube manometer , turn on the gas supply and light appliance. Open a hot water tap to draw off more than 10 litres a minute ( *in summer or when the inlet cold water is above 15°C it may be necessary to temporarily increase the maximum water flow to compensate for the thermostat turning down the gas rate* )

Adjust pressure if necessary at the pressure regulator fitted to the gas supply pipe. (Refer data page 3)

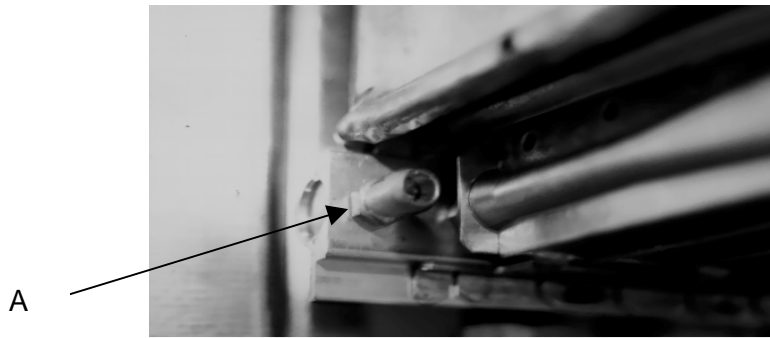


Figure 6

### ***Inlet Pressure***

The gas supply pressure must be as stated on the appliance rating label, located bottom right hand inside rear panel. The gas pressure at the inlet test point ( Position A Figure 7 ) will be approx 100 pascals less than the supply pressure due to the pressure drop across regulator.

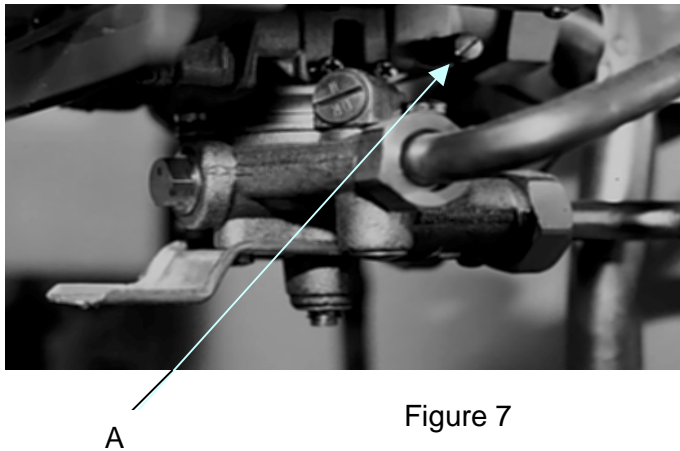


Figure 7

## Thermostat Setting

### Method :-

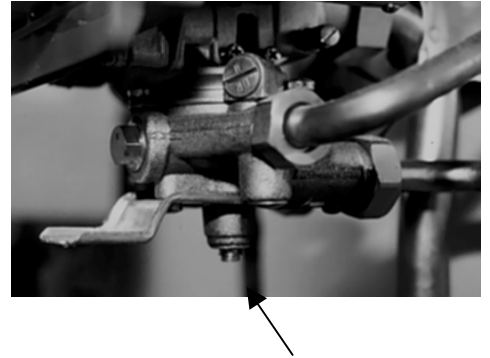
#### Step 1.

Adjust maximum water flow to 10 -13 litres a minute ( Bosch 13P ) or 13-16 litres a minute (Bosch 16P ). Adjust using the slotted head screw in the base of the brass water valve. Turn clockwise to decrease water flow ( higher water temperature ) .

Water flow can be measured by the time taken ( seconds ) to fill a container of a known quantity.

I.E.: A 2 litre container fills in 12 seconds

Therefore  $60 \div 12 \text{ seconds} \times 2 = 10 \text{ litres a minute.}$



#### Step 2.

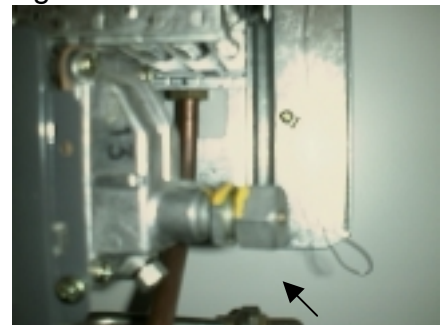
Loosen burner pressure test point and attach U tube manometer, light appliance and open hot water tap fully. Measure the distance between the two water columns.

**1 KPa = 100 mm**

**2.6 KPa = 260 mm**

Adjust natural gas appliances at the pressure regulator fitted to the gas inlet pipe and LP Gas appliances are to be adjusted at the regulator fitted to the supply cylinder.

If the burner pressure is not correct check the gas inlet pressure at the test point located on the right hand side of the gas valve . The inlet pressure should be measured with the appliance operating.



Temperature adjustment nut

#### Step 3.

With the manometer still connected turn a hot water tap on to give a flow rate of 5 litres a minute ( fill a 1 litre container in 12 seconds ).

Allow water to run for 1-2 minutes and measure temperature. Adjust to give an outlet temperature of 60°C.

When an outlet temperature of 60°C is obtained ensure that the burner pressure is lower than in step 2 , this will confirm that the thermostat is sensing the hot water and closing the gas supply to give only the amount of fuel required to achieve 60°C.

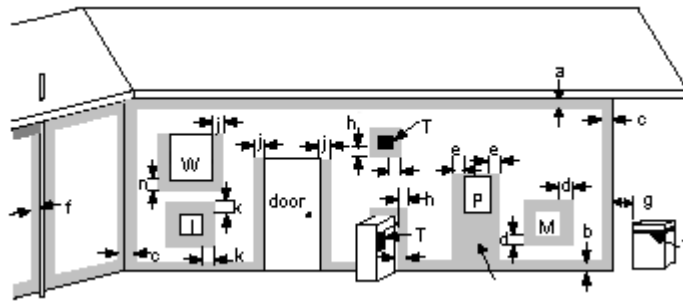
**Now reduce the flow of water to a rate of 2 litres a minute, the temperature should not exceed 63°C If incorrect replace flow thermostat insert.**

#### Step 4.

After completing all the above adjustments open the hot water tap fully and observe that the burner pressure returns to that stated on the rating label. This will ensure that the thermostat is sensing the cold water and opening the gas fully.

Remove the manometer and tighten the burner pressure test point.

## Clearance of flue terminals



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

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

## **Warranty Details**

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 One (1) years parts and labour. Additionally, the heat exchanger is covered for a period of ten (10) years (parts only).

For appliances used in commercial applications the warranty period is Six(6) 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 mandatory 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.**

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