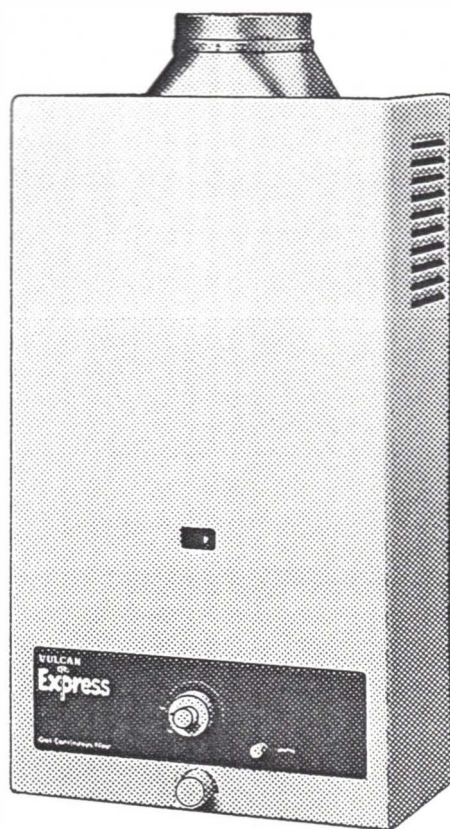
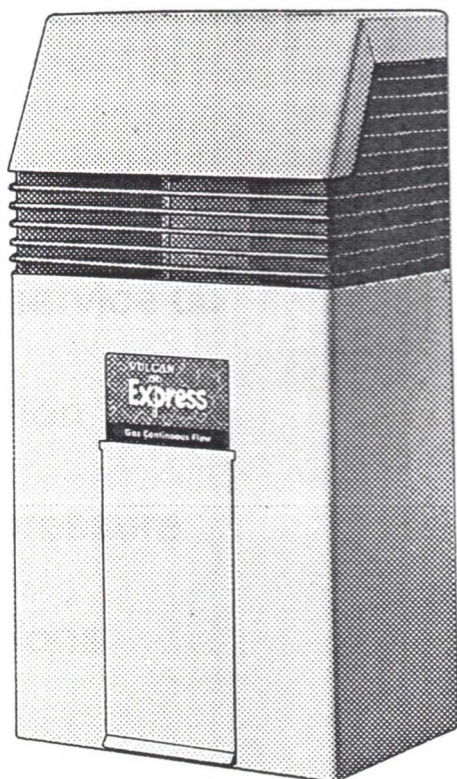


GAS

Owners Guide and Installation Instructions.



VULCAN

Express

Loads of non-stop hot water

This water heater must be installed and serviced by an authorised person.

Please leave this guide with householder

CONTENTS

HOUSEHOLDER

WE RECOMMEND THAT YOU READ PAGES 4 - 6

The other pages are intended for the installer but may be of interest.

About your water heater	4-5
Save a service call	6
Installation	7-14
Water pressure	7
Dimensions	8-9
Flueing	10
Freeze protection	11
Commissioning	11
Connections	11
Lighting the heater	15
Warranty	20

ABOUT YOUR WATER HEATER

MODEL TYPE

Congratulations for choosing a Vulcan Continuous Flow gas water heater. The model you have chosen is either an internal only or external only, and both are designed for wall mounting. The internal model has a white enamel finish and the external model has a beige colorbond outer casing with a built in balanced flue. The heater controls are located on the front of the internal models. For the external models, remove the access door.

HOW HOT SHOULD THE WATER BE?

This type of appliance operates on the principle of heating water as it passes through the heater. The temperature from the hot tap will be a minimum 25°C above the cold water temperature. Incorporated in the controls is a temperature selector knob that can be used to compensate for the seasonal changes of the cold water temperature. (See temperature adjustment below).

HOTTER WATER INCREASES THE RISK OF SCALD INJURY.

We recommend, and it may also be required by regulations, that a temperature control device be fitted into the hot water piping to the bathroom and ensuite. This will keep the water temperature below 50°C at the bathroom and ensuite. The risk of scald injury will be reduced but still allow hotter water to the kitchen and laundry.

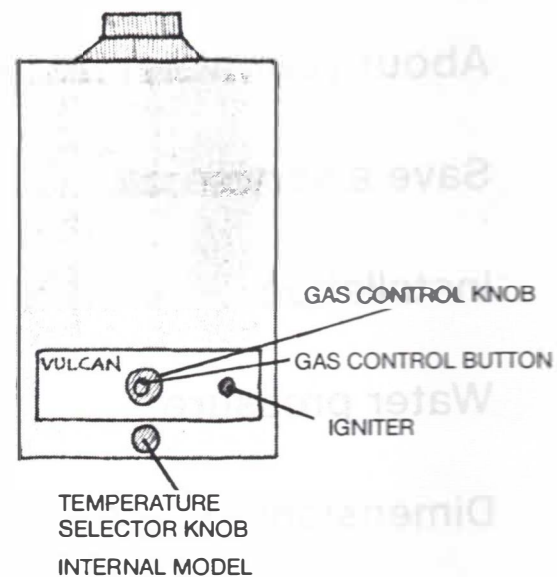
TEMPERATURE ADJUSTMENT

The appliance incorporates a temperature selector knob. (See drawing). To select the required hot water temperature turn temperature selector:

- Clockwise to increase temperature which will decrease the water flow rate.
- Anti-clockwise to decrease temperature which will increase the water flow rate.

TO TURN THE HEATER OFF

Turn the gas control knob (see drawing) clockwise from the ON-position to the OFF-position. If the appliance is to be shut down for a long period of time, close the isolation valves on the gas and cold water supplies.



ABOUT YOUR WATER HEATER

HOW LONG WILL THE WATER HEATER LAST?

There are a number of factors that will affect the length of service the heater will provide. These include the water quality, the water pressure and temperature (inlet and outlet) and the water usage pattern. However, your Vulcan water heater is supported by a comprehensive warranty. (See Page 20).

GENERAL MAINTENANCE

The case of the appliance can be cleaned with a soft cloth and warm soapy water. Under no circumstances should abrasive materials or powders be used.

The water heater should be serviced annually by Southcorp Water Heater or their accredited service agent where genuine replacement parts are available.

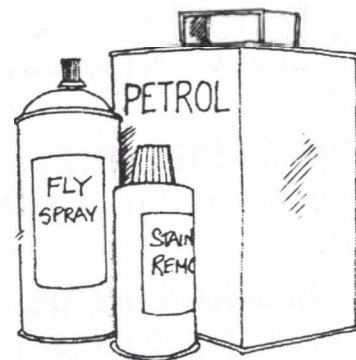
Ensure that the appliance flue terminal is not obstructed in any way at any time.

SAFETY INSTRUCTIONS

For safety, your water heater is fitted with a flame failure safety device which will shut off the gas supply in the event of flame failure. This device must not be tampered with and the heater must not be operated unless this device is in working order.

Do not store chemicals or inflammable materials, or spray aerosols near this appliance.

Do not place articles on or against this appliance.



FREEZE PROTECTION

Outdoor models should be turned off (see page 11) and drained if freezing conditions are likely to occur. This will protect the heater from damage caused by ice forming in the waterways. A draincock for this purpose should be fitted by the installer in the cold water line between the gate valve and the heater.

SAVE A SERVICE CALL

Check the items below before making a service call. You will be charged for attending to any fault that is not related to manufacture or failure of a part. (See warranty page 20).

COLD WATER FROM HOT TAP

Check that pilot is lit. If not, relight as per lighting instructions. With pilot alight does the main burner operate when the hot tap is turned on? Is the hot tap open enough? (minimum flow rate 3 L/m required to operate main burner).

WATER NOT HOT ENOUGH

Has the temperature selector been turned clockwise to compensate for seasonal cold water temperature changes? Check the temperature difference between the hot and cold water supply.

NO WATER FROM HOT TAP

This would indicate a restriction of the cold water supply to the appliance. Check for water flow at other taps and that the cold water supply isolation valve (see drawing page 18) is fully open.

SHOWER TEMPERATURE FLUCTUATES

The shower should be adjusted so the hot tap is fully open.

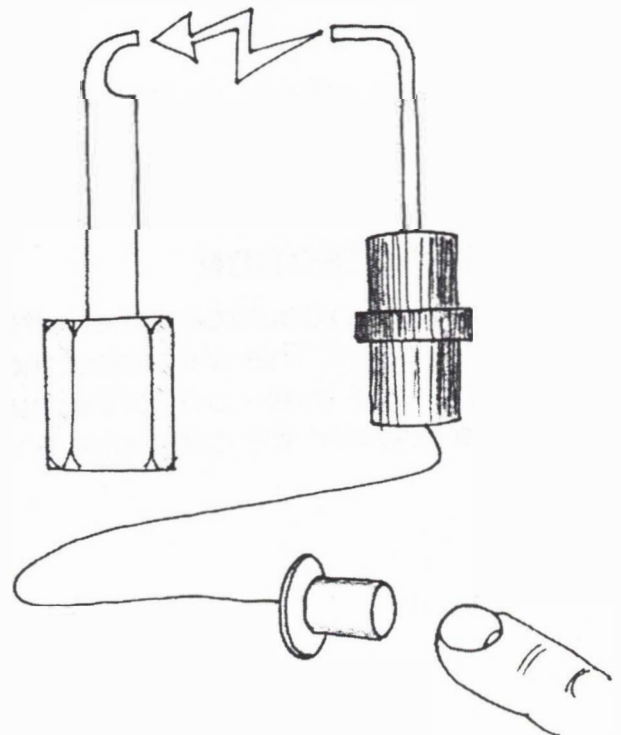
WATER PRESSURE RELIEF

Built into the water controls of this appliance is a pressure relief valve. The purpose of the valve is to protect the heater by allowing water to escape in the event of excessive pressure build-up in the waterways.

You may see a drop or two of water from the bottom of the heater when a hot tap is suddenly turned off. However if there is a continuous dribble it may indicate that the mains water pressure is above the design pressure for the heater. If so, ask your installing plumber to fit a pressure limiting valve.

CAN'T LIGHT THE PILOT

No gas to the heater. Is the isolating cock in the gas line "OPEN"? Is there a normal gas supply to the rest of the house? Try lighting another appliance to check. If no gas — call your gas supply authority.



INSTALLATION

THIS APPLIANCE IS NOT SUITABLE FOR POOL HEATING.

CHECK THAT THE APPLIANCE IS SUITABLE FOR THE GAS AVAILABLE.

(See appliance rating plate).

The installation must comply with these installation instructions and with the requirements of AS3500.4, AG601 and any other statutory requirements. In New Zealand, the installation must conform with NZS5261 Code of Practice for Installation of Gas Burning Appliances and the New Zealand Building Code.

GENERAL

The appliance is to be mounted on a vertical wall. The heater dimensions are shown on pages 8 & 9, but do not include clearance for installation or servicing.

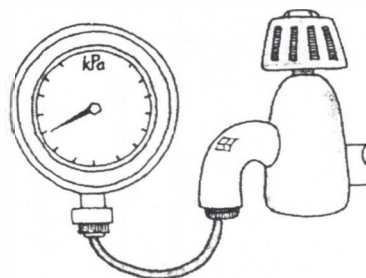
If the appliance is fitted on a wall of combustible material the wall should be protected by either:

- A metal shield — see pages 16 & 17 for details of dimensions.
- A non-combustible sheet not less than 25mm thick with an air gap of 5mm between this sheet and the heater.

MAINS WATER SUPPLY

Where the mains water supply pressure exceeds that shown below, an approved pressure limiting valve is required and should be fitted as shown in the installation diagram. (See pages 12 & 13).

Model	Water Pressure kPa	
	Maximum	Minimum
10 L/M	1300	20
13 L/M	1300	40



If sludge or foreign matter is present in the water supply it is recommended that a suitable filter be incorporated in the water supply line to the heater.

Hot Water Delivery

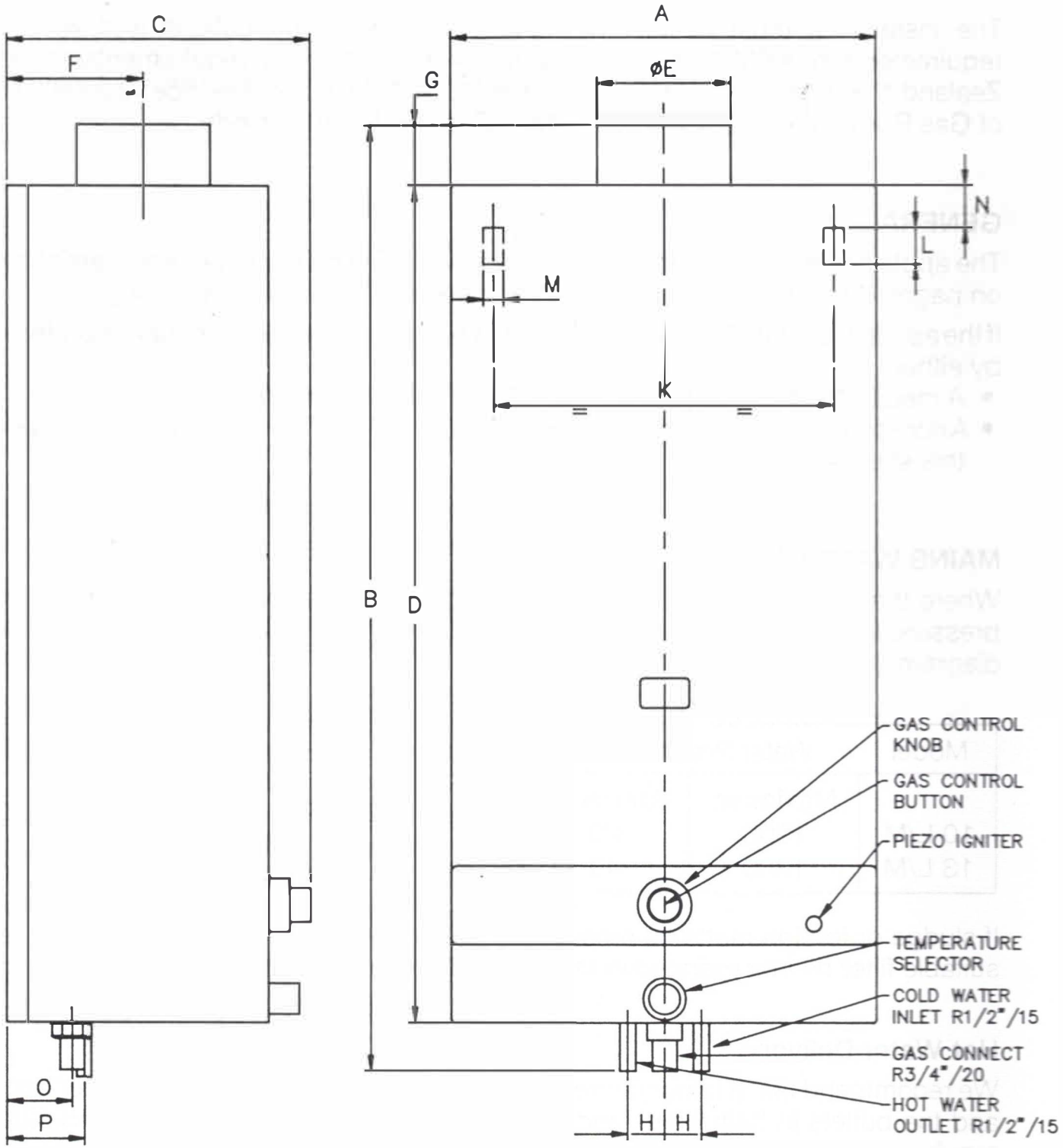
We recommend that a temperature control device be fitted between the water heater and the outlets in bathrooms and ensuites to comply with the water temperature requirements of AS3500.4

Reducing Heat Loss

It is suggested that the hot water pipes be lagged to reduce heat losses.

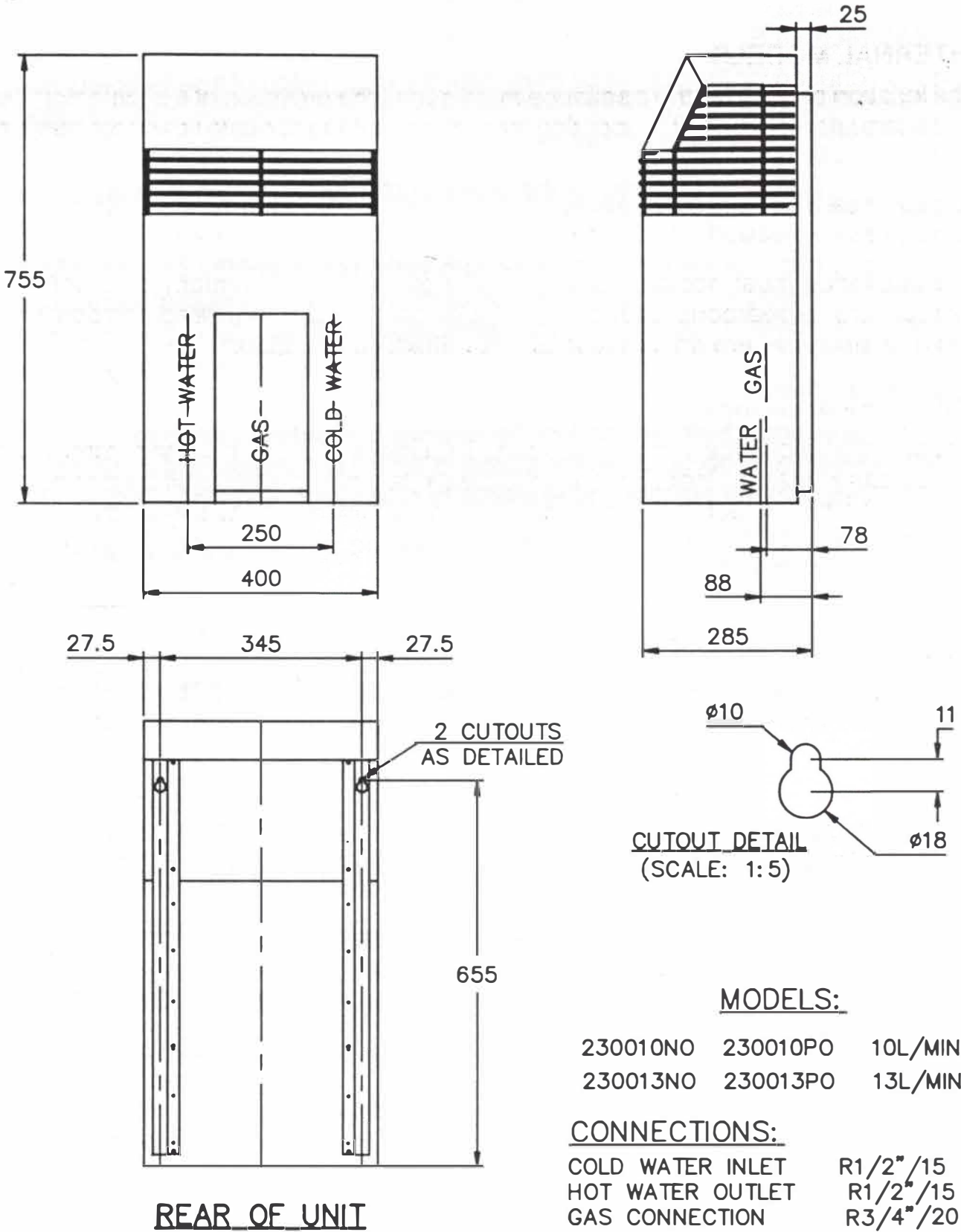
INSTALLATION

CAPACITY	MODEL NO.	A	B	C	D	E	F	G	H	K	L	M	N	O	P
10L/MIN.	220010NO 220010PO	350	780	250	690	110	112	50	30	280	30	17	35	53	63
13L/MIN.	220013NO 220013PO	400	800	250	690	130	112	90	30	280	28	18	35	53	63



INTERNAL MODELS DIMENSIONS

INSTALLATION



REAR OF UNIT

CUTOUT DETAIL
(SCALE: 1:5)

MODELS:

230010NO	230010PO	10L/MIN.
230013NO	230013PO	13L/MIN.

CONNECTIONS:

COLD WATER INLET	R1/2"/15
HOT WATER OUTLET	R1/2"/15
GAS CONNECTION	R3/4"/20

EXTERNAL MODELS
DIMENSIONS

INSTALLATION

INTERNAL MODELS

The location chosen for the appliance must permit the provision of a satisfactory flue and adequate air supply. The location must also provide adequate space for servicing and air circulation around the appliance.

A clearance of 25mm is required at the sides and 200mm at the bottom of the appliance.

The appliance must not be installed in a room with high humidity or a corrosive atmosphere, a bedroom, bathroom, toilet or combined living/sleeping room. Also avoid positions where an exhaust fan may affect combustion.

Fitting the Appliance

Unpack the appliance from the carton. To remove the outer casing, remove the temperature selector knob, unscrew the plastic retaining nut and pull the casing over the temperature selector spindle and upwards to disengage at spring clips.

Mount appliance on the wall using suitable hanging screws (refer page 8 for mounting hole positions).

Flueing

The internal model must have a secondary flue as part of the installation. The 10 L/M model flue size is 110mm and the 13 L/M model flue size is 130mm outside diameter circular flue.

EXTERNAL MODELS

The position of the heater should be chosen with safety and service in mind.

As a guide the following requirements extracted from AG601 are to be observed.

- At least 500mm between the top of the heater and the eaves
- At least 500mm horizontally between the heater and the edge of any opening into the building.
- At least 500mm between the heater and a return wall or external corner.
- At least 1000mm below any openable window.
- At least 500mm clear of any combustibles.

Fitting the Appliance

Unpack the appliance from the carton.

Mount the appliance on the wall using suitable hanging screws (refer page 9 for mounting hole instructions).

INSTALLATION

Flueing

The external model operates on the balanced flue principle and no further flueing is required.

Freeze Protection

In areas where freeze conditions are likely to occur a drain cock should be fitted in the cold water line between the gate valve and the heater. The householder should be instructed on the process of draining the heater.

Connection Sizes

- Hot Water Connection : R $\frac{1}{2}$ /15
- Cold Water Connection : R $\frac{1}{2}$ /15
- Gas Connection : R $\frac{3}{4}$ /20

NOTE: It is essential that all pipe connections be correctly aligned otherwise component connections within the heater may be strained and/or components themselves misaligned. It is recommended also, that wherever possible, pipe connections be made at the heater first and that final pipe runs be made in soft copper pipe to allow some adjustment for misalignment.

Care should be taken not to twist the water inlet and outlet pipes inside the external model cabinet.

All pipes should be well flushed before connections are made.

Hot Water Outlet

For the position of the hot water outlet (see pages 8 & 9). A disconnection union shall be provided.

Cold Water Inlet

An approved GATE VALVE and disconnection union shall be fitted in the cold water supply close to the heater (see page 8 & 9). Do not fit a non-return valve.

Gas Inlet

The pipework must be cleared of foreign matter before connection and purged before attempting to light the heater. An isolation valve and disconnection union must be used. Refer to the A.G.A. Installation Code for Gas Burning Equipment for the relevant pipe sizing.

Initial Commissioning

All heaters are tested and adjusted before despatch, but further adjustments may become necessary because of local conditions. **IMPORTANT** — CHECK GAS BURNER PRESSURE. (See gas pressure adjustment).

The automatic water governor incorporated in the water valve requires no adjustment.

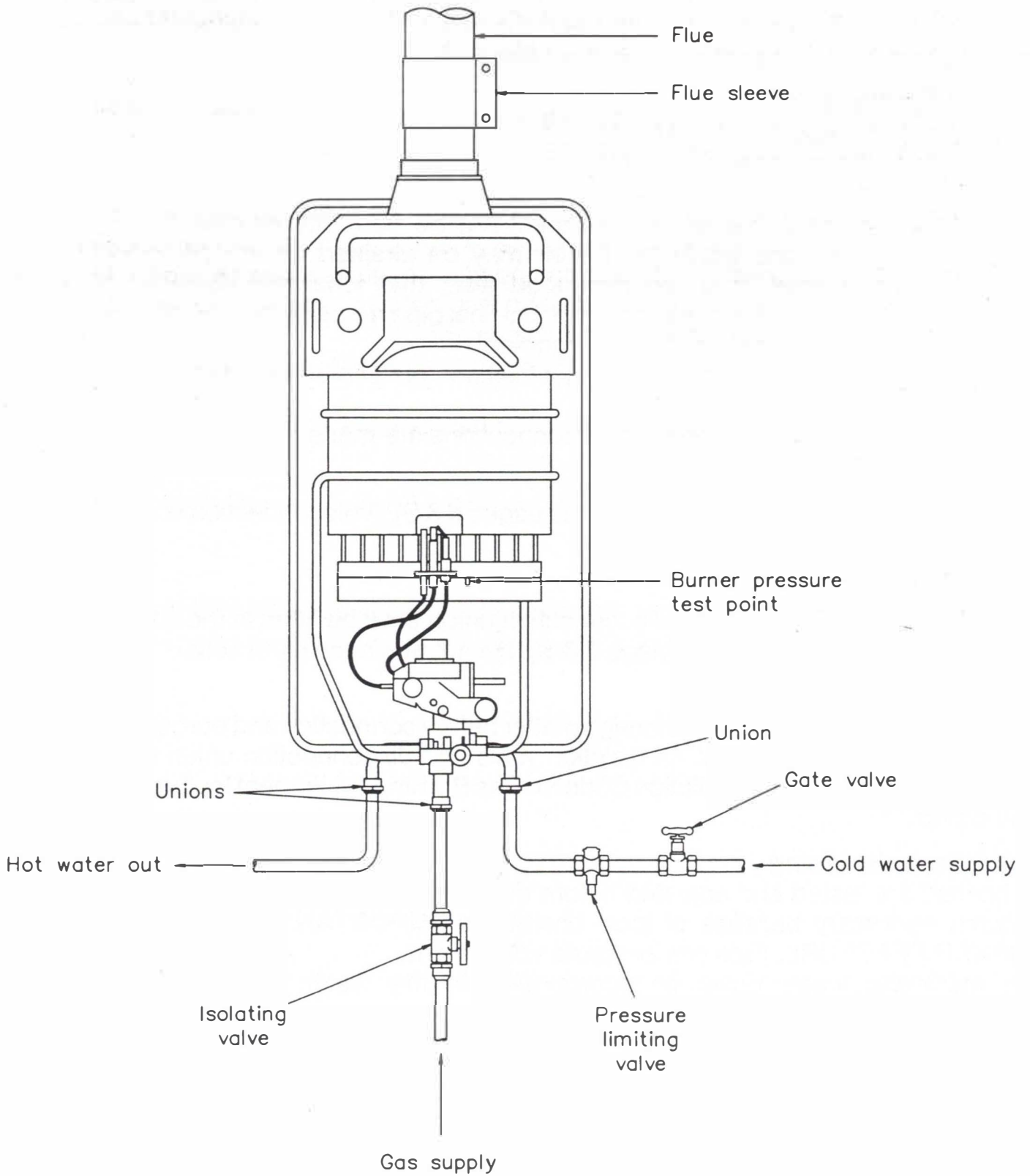
Ensure that the main gas cock in the supply line and the gate valve in the cold water supply line are fully open.

To expel air from water supply pipes, open all hot water draw off taps and close as the water runs freely without spurting.

Check to ensure that the flow from each connected hot water tap is sufficient to operate the heater. The minimum flow rate is 2.5 L/M for 10L models, 3 L/M for 13L models.

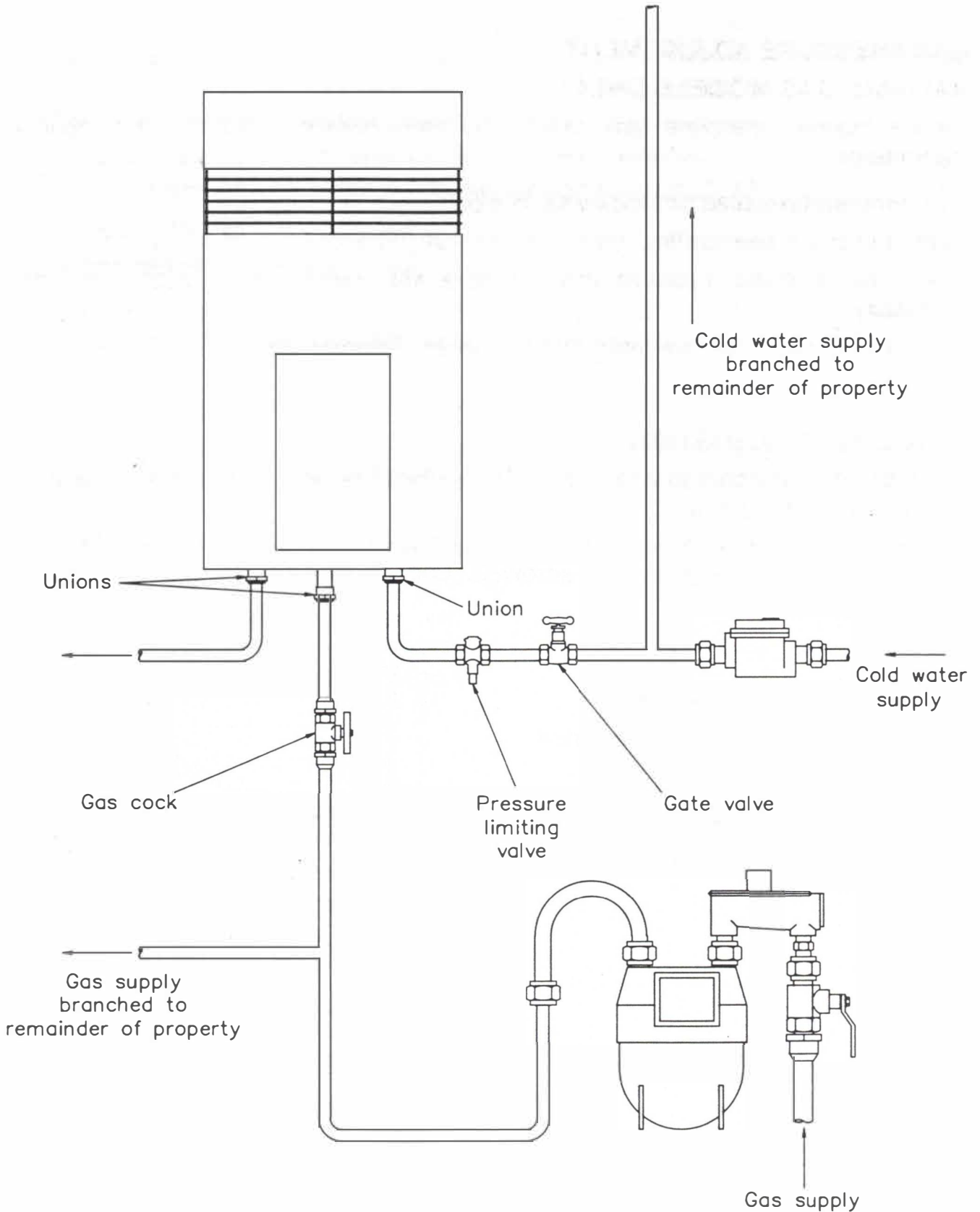
INSTALLATION

Typical installation – internal



INSTALLATION

Typical installation — external



INSTALLATION

EXTERNAL MODELS — REMOVAL OF CABINET FOR SERVICE

Remove the screws holding the jacket, gently spring return edges from back plate and pull forward to disengage from the terminal grill.

GAS PRESSURE ADJUSTMENT

NATURAL GAS MODELS ONLY

Locate burner pressure test point on main burner manifold and connect manometer.

Turn temperature selector clockwise to stop.

Light appliance (see lighting instructions page 15) and draw off hot water.

Check the testpoint pressure and compare with rating plate. Adjust regulator if necessary.

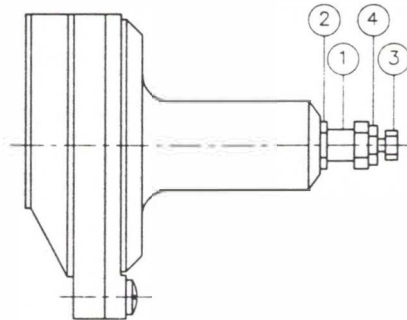
Turn appliance off, remove manometer, tighten testpoint screw.

REGULATOR ADJUSTMENT

1. Adjust testpoint pressure to nominal by turning the screw 1. Lock the screw in that position with locknut 2.
2. Any adjustment of screw 1 must be countered by the same number of turns in the opposite direction with screw 3. Lock that screw in that position with locknut 4.

Pressure Regulator — Parts

1. Low pressure adjustment screw
2. Low pressure locknut
3. High pressure adjustment screw
4. High pressure locknut



LIGHTING INSTRUCTIONS

1. Ensure gas and water isolating valves are fully open.
2. Fit front cover to internal models. Remove access door from external models.
3. To light the pilot rotate gas control knob to "OFF" and wait 5 minutes for escape of any unburnt gas.
 - 3.1 Rotate the gas control knob counter clockwise to ON position.
 - 3.2 Depress the gas control button (in the centre of the gas control knob) and repeatedly press the igniter button until the pilot lights.
 - 3.3 Continue to hold the gas control button for a further 20 seconds. Pilot should remain steadily alight after button has been released.
 - 3.4 If the pilot is still not alight, rotate the gas control knob to "OFF", wait 5 minutes for the escape of unburnt gas and begin again at step 3.1.
4. Open a hot tap to ensure main burner operates.

IMPORTANT: AFTER LIGHTING HEATER REPLACE ACCESS COVER ON EXTERNAL MODELS.

TO OPERATE THE WATER HEATER

To get the best results from your continuous flow gas water heater, the flow should be adjusted so that the hot tap is fully open and the cold tap is used to adjust for the desired temperature.

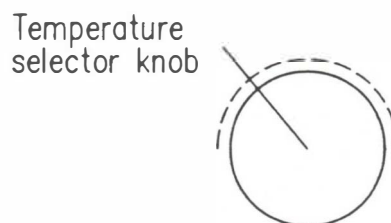
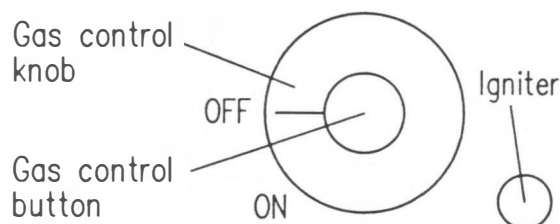
TEMPERATURE SELECTION

This appliance incorporates a water temperature selector located below the gas control knob. To select the required hot water temperature turn the selector knob:

- Clockwise to increase temperature
- Counter-clockwise to decrease temperature.

This control can be seasonally adjusted to suit the varying cold water temperatures.

Note: Changing the temperature selector will affect the water flow from the hot taps.

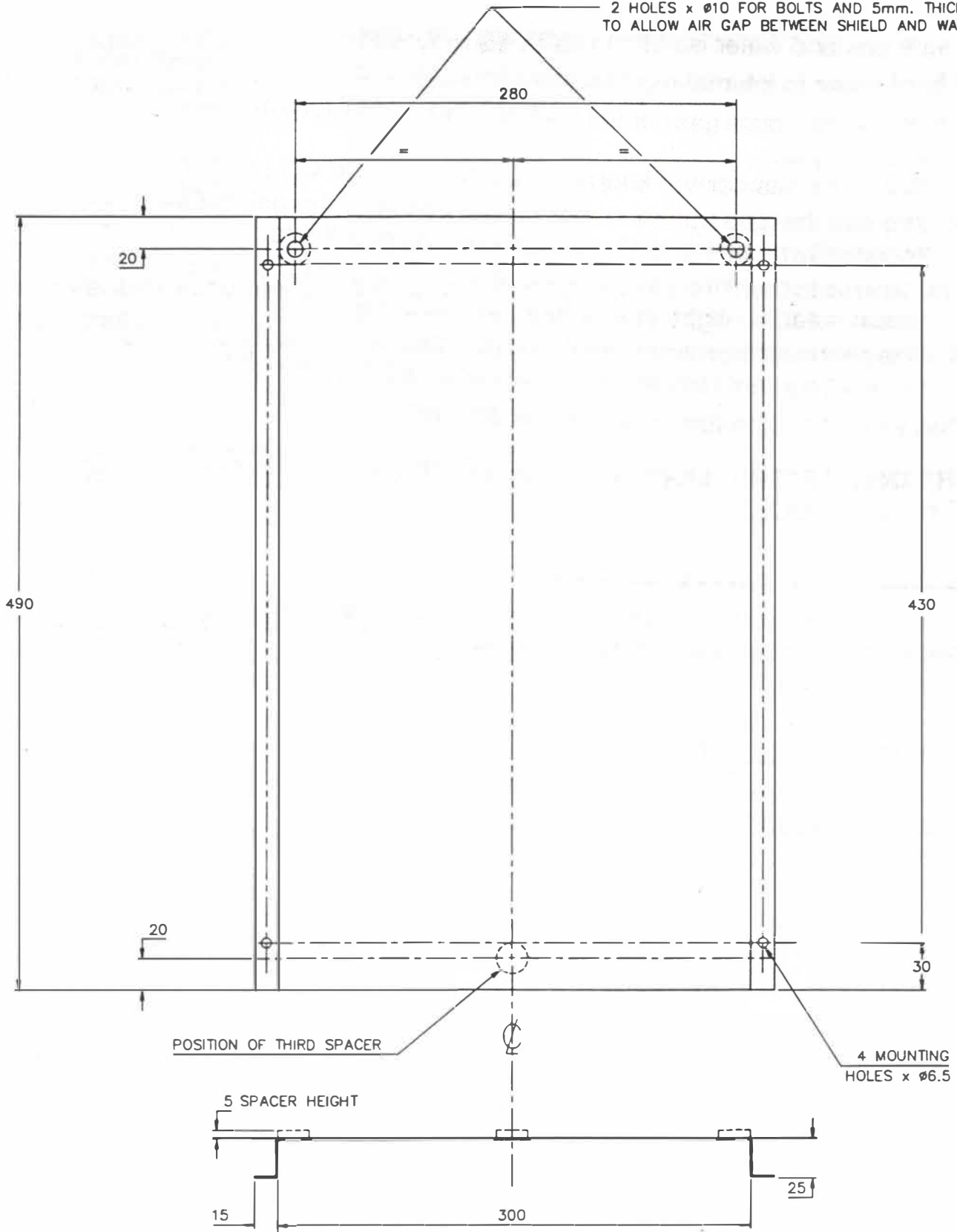


TO SHUT DOWN

Turn gas control knob clockwise to OFF position. If the appliance is to be shut down for a long period of time, it is advisable to also close the gas and water isolating valves.

INSTALLATION

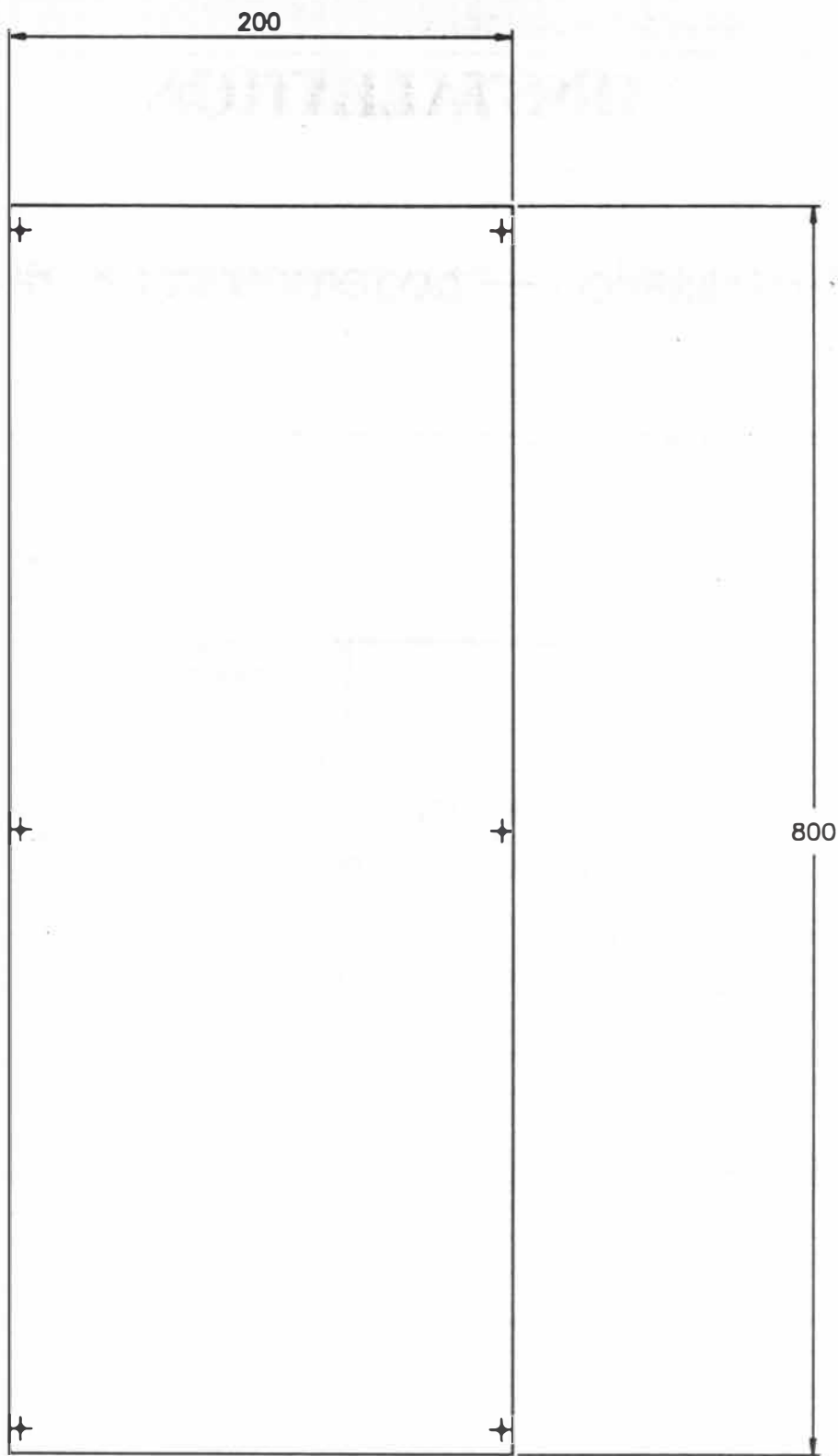
2 HOLES x $\phi 10$ FOR BOLTS AND 5mm. THICK SPACERS TO ALLOW AIR GAP BETWEEN SHIELD AND WATER HEATER



MATERIAL: GAL. SHEET x 0.8mm. MIN. THICKNESS.

HEAT SHIELD – DIMENSIONS

FOR USE WHEN INSTALLING HEATER ON
COMBUSTIBLE SURFACE



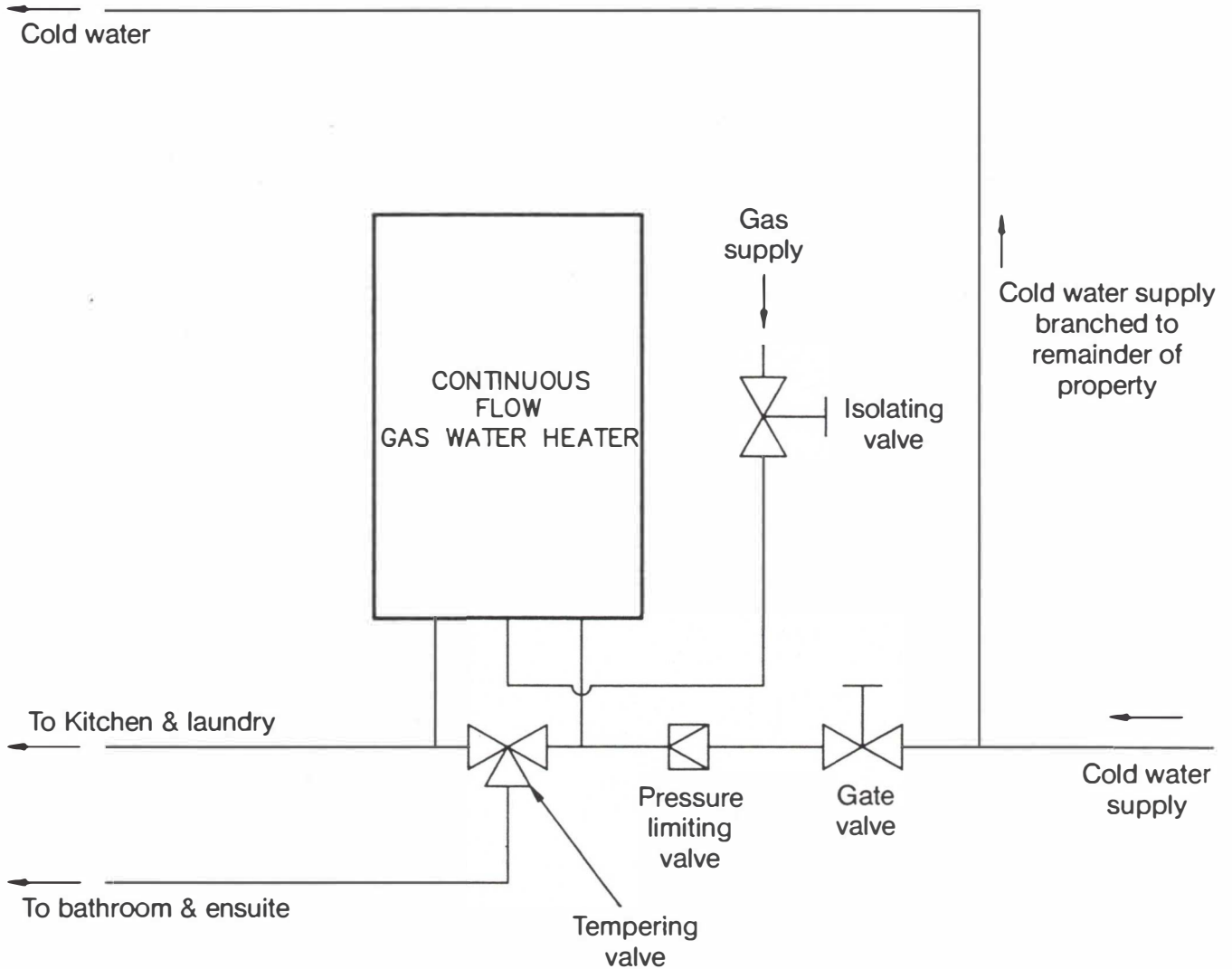
MATERIAL: GAL. OR ZINCALUME
SHEET x 0.8mm. MIN. THICKNESS.

HEAT SHIELD OUTDOOR – DIMENSIONS

FOR USE WHEN INSTALLING HEATER ON
COMBUSTIBLE SURFACE

INSTALLATION

Typical installation — two temperature requirement



Schematic Diagram

VULCAN CONTINUOUS FLOW WATER HEATER WARRANTY (AUSTRALIA ONLY)

The Trade Practices Act 1974 and similar laws in each state and territory provide the Owner under certain circumstances with remedies in the event that a Vulcan Continuous Flow Water Heater fails due to defective materials or workmanship. In addition, Southcorp Water Heater* makes the following promise:

We will repair, or if necessary, replace a defective Vulcan Continuous Flow Water Heater on the following terms and conditions.

Southcorp will replace any failed component or, if necessary, arrange the installation of a new heater for the period shown on the following table.

Period	Model	Installation	Warranty
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Component and Heat Exchanger Warranty (from date of installation)

12 months	All models	All installations	New component or heater free of charge, **including labour
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Heat Exchanger Warranty (from date of installation)

10 years	All Models	Heater installed in a single-family domestic premises	New heater free of charge, with installation and labour costs being the responsibility of the owner.
5 years	All Models	Heater installed in any other than a single-family domestic premises	

Notes:

The warranty is applicable to Water Heaters manufactured from 1 September 1995.

* Southcorp Water Heater is a registered business name of Southcorp Australia Pty Ltd A.C.N. 004 213 665.

Southcorp Water Heater is the manufacturer/supplier of Vulcan water heaters.

**Refer to item 3 of warranty conditions.

Southcorp Water Heater reserves the right to transfer fully functional components from the defective heater to the replacement heater if required.

WARRANTY CONDITIONS

1. The water heater must be installed in accordance with the Vulcan Water Heater installation instructions, supplied with the water heater, and in accordance with all relevant statutory and local requirements of the State in which the water heater is to be installed.
2. Where a failed component or water heater is replaced under Warranty, the balance of the original warranty period will remain effective. The replaced part or water heater does not carry a new warranty.
3. Where the water heater is installed outside the boundaries of a metropolitan area as defined by Southcorp Water Heater or further than 25km from a regional Southcorp Water Heater branch office, or a Southcorp Water Heater Accredited Service Agent, the cost of transport, insurance and travelling costs between the nearest Southcorp Water Heater Accredited Service Agent's premises and the installed site shall be the owner's responsibility.
4. The warranty only applies to the water heater and original or genuine company component replacement parts and therefore does not cover any plumbing or electrical parts supplied by the installer and not an integral part of the water heater, e.g. pressure limiting valve, stop cock, non-return valve, electrical switches, pumps, or fuse.
5. The water heater must be sized to supply the hot water demand in accordance with the guidelines in Vulcan Water Heater literature.

WARRANTY EXCLUSIONS

REPAIR AND REPLACEMENT WORK WILL BE CARRIED OUT AS SET OUT IN THE VULCAN CONTINUOUS FLOW WATER HEATER WARRANTY ABOVE, BUT THE FOLLOWING EXCLUSIONS MAY CAUSE THE WATER HEATER WARRANTY TO BECOME VOID, AND MAY INCUR A SERVICE CHARGE AND COST OF PARTS (IF NECESSARY).

1. Accidental damage: Acts of God, failure due to misuse; incorrect installation; attempts to repair the water heater other than by a Southcorp Water Heater Accredited Service Agent, or the Southcorp Water Heater Service Department.
2. Where it is found that there is nothing wrong with the water heater, where the complaint is related to excessive discharge from the pressure relief valve due to high water pressure; where there is no flow of hot water due to faulty plumbing; where water leaks are related to plumbing and not the water heater or water heater components; where there is a failure of gas, electricity or water supplies.
3. Where the water heater or water heater is damaged directly or indirectly as a result of excessive water pressure, temperature and/or thermal input or corrosive atmosphere.
4. Where the water heater is located in a position that does not comply with the Vulcan water heater installation instructions or relevant statutory requirements, causing the need for major dismantling or removal of cupboards, doors or walls, or use of special equipment to bring the water heater to floor level.
5. Subject to any statutory provisions to the contrary claims for damage to furniture, carpets, walls, foundations or any other property, whether directly or indirectly due to leakage.

SA HOT WATER
941 PORT ROAD
CHELLENHAM SA 5014
PHONE: 8244 4444

NOTE: Every care has been taken to ensure accuracy in preparation of this publication. No liability can be accepted for any consequences which may arise as a result of its application.