



ENAMEL LINED STEEL MAINS PRESSURE WATER HEATER

PLUMBERS GUIDE / OWNERS GUIDE

Please leave this instruction leaflet with the owner following the conclusion of the installation.

IMPORTANT INSTALLATION POINTS

Please read and understand these instructions prior to installing this HJ Cooper mains pressure water heater. Particular attention should be paid to the section headed **IMPORTANT INSTALLATION POINTS**. Following installation and commissioning, the operation of the heater should be explained to the customer and these instructions left with them for future reference.

COMPONENT CHECKLIST

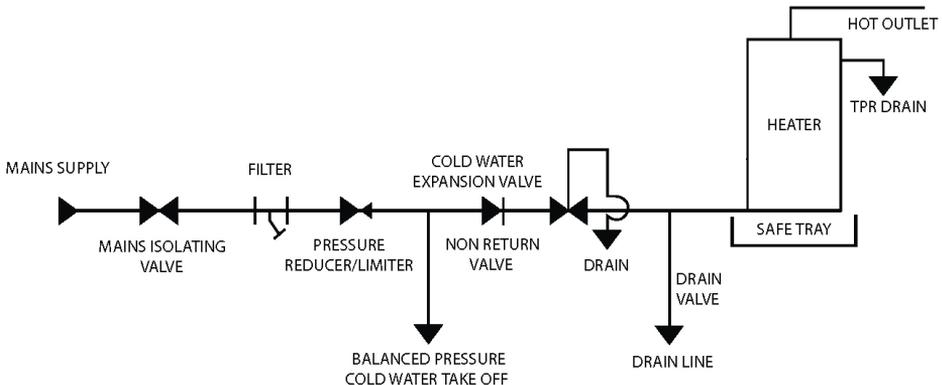
- 1 x Mains Pressure Warranty, User and Installation Guide
- 1 x MP TPR Valve
- 1 x MP Key Spanner (Element Spanner)

1.0 IMPORTANT INSTALLATION POINTS

- 1.1 This HJ Cooper water heater shall be installed in accordance with the requirements of NZS4607, and the requirements of the appropriate local authority, the New Zealand Building Code (G12) and all codes of practice and regulations in force at the time of installation. All necessary inlet controls and safety valves must be fitted correctly.
- 1.2 This water heater must be installed by a competent person, working in accordance with the Plumbers, Gasfitters and Drainlayers Act 2006. This Act specifies the registration and licensing requirements for persons legally able to do plumbing work.
- 1.3 This HJ Cooper water heater is designed for 230V A.C. operation only and must be installed according to all local authority regulations and the requirements of AS/NZS 3000.
- 1.4 This HJ Cooper water heater is suitable for internal installations only.
- 1.5 The New Zealand Building Code and NZS4607 require a safe tray to be fitted, with an overflow pipe of 40mm, to prevent damage should water leak from the cylinder.
- 1.6 This HJ Cooper water heater should be secured against seismic forces. Use of a HJ Cooper seismic restraint is recommended, complete with adjustable turnbuckles, which is required to comply with the New Zealand Building Code.
- 1.7 This HJ Cooper water heater should be accessible as defined under G12 of the building code. Heating elements, thermostats, valves, other accessories, pipework and connections shall all be accessible and replaceable. Clearance must be allowed for servicing and maintenance and it shall be accessible without the use of ladders or scaffolding.
- 1.8 This HJ Cooper water heater must be installed with a 500 kPa or less pressure limiting valve and appropriate cold water expansion valve.
- 1.9 The system should be located and arranged so as to achieve the closest proximity to water draw off points.
- 1.10 Before switching the power on, the water heater must be full of water and all electrical connections and fixed wire installation must be checked and certified by a competent and qualified person.
- 1.11 This water heater is not intended for use by young children or infirm persons without supervision. Young children should be supervised to ensure they do not play with this water heater.
- 1.12 Please note that HJ Cooper will not be liable for any loss or damage due to the incorrect installation of this water heater.
- 1.13 An unvented hot water storage system employs a storage cylinder that is fed directly from the cold water mains via a pressure reducing valve and does not have a vent pipe to the atmosphere. Consequently the pressure in the hot water system is provided by the cold water supply, rather than the head of water from a vent pipe or storage tank. Special measures are necessary to accommodate expansion as the water heats up, so that there is no dangerous build-up of pressure within the unvented storage vessel, and that any hot water discharged from safety devices is conveyed safely away from the unit.
- 1.14 Requirements for the unvented storage water heating system itself and for its installation are laid down in NZS4603, NZS4607 and the requirements of the appropriate local authority and the New Zealand Building Code (G12).
- 1.15 **Safety devices**
This water heater is fitted with a thermostat and over-temperature energy cut-out.
The water heater is also supplied with a temperature and pressure relief valve (TPR) which **MUST** be fitted prior to operation. The water heater must not be operated under any circumstances without these devices installed and working.
- 1.16 The discharge from the TPR must be in accordance with G12 | AS1 (6.7).

2.0 INSTALLATION - PLUMBING

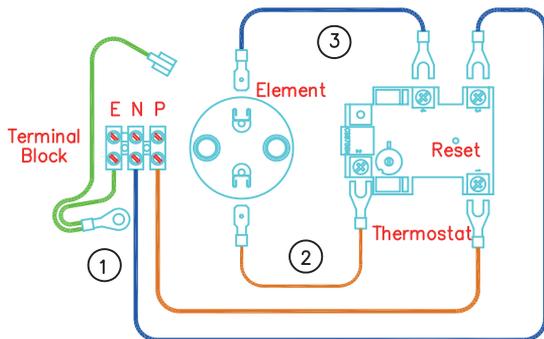
- 2.1 If the inlet mains water pressure at any time exceeds 500 kPa or if it rises to more than 80% of the cold water expansion valve pressure setting a pressure reducing valve must be fitted & rated at 500 kPa or less.
- 2.2 A cold water expansion valve must be fitted to the cold water inlet supply of the water heater. This must be sited on the heater side of any pressure/limiting valve and/or non return valve fitted. (See diagram below.)
- 2.3 A temperature and pressure relief valve is supplied with the water heater and **MUST** be fitted to the connection indicated on page 2. The TPR valve thread should be sealed with PTFE (Teflon) tape, do not use paste and hemp. Use the spanner flats on the valve body to tighten, **DO NOT** use a wrench on the valve body itself.
- 2.4 The TPR valve must be fitted with a drain pipe to direct any water discharged to a visible point outside the property. The drain pipe must have a continuous fall and be at least the same size as the TPR valve outlet (1/2" BSP). Where the drainpipe exceeds 3 metres in length an air break must be provided within 300mm of the TPR valve outlet. Where an air break is used it is recommended that the pipe size after the air break be increased to one size larger than the pipe from the TPR valve.
- 2.5 It is the installer's responsibility to adequately size the distribution pipe work in a property to ensure sufficient performance from all outlet fittings. As a guide it is recommended that main distributing runs be in 20mm pipe work with branches to taps being reduced to 15mm.
- 2.6 A drain off tap or line must be fitted to the inlet of the water heater.



Note: Relief valve drains must be installed in accordance with G12 | AS1 (6.7 Relief Valve Drains)

3.0 INSTALLATION - ELECTRICAL

This water heater must be earthed. The element is suitable for a 230v AC single phase supply only. Ensure the supply cable is of a suitable rating for the element loading. The thermostat maximum setting is between 60 - 70°C and is factory set to 70°



WIRE No.	SPECIFICATION	COLOUR	RINNAI PART CODE
1	WIRING MAIN LOOM R/SHAW ASSY	GREEN/BROWN/BLUE	20197
2	WIRE LINK BROWN R/SHAW ASSY	BROWN	20198
3	WIRE LINK BLUE R/SHAW ASSY	BLUE	20199

4.0 COMMISSIONING

- 4.1 To commission your water heater the power must not be switched on until the unit is full of water and a qualified person has checked the installation.
- 4.2 To fill the water heater open all the hot taps including any showers. Open the cold water isolation to the heater and let the air expel from all taps and showers until water starts to flow freely.
- 4.3 Close each outlet and check the entire installation for leaks.
- 4.4 Check the operation of the temperature and pressure relief valve by manually lifting the lever on the valve and ensuring water flows from the outlet.
- 4.5 When the system has been checked for leaks and you are satisfied the system is working correctly switch on the power.
- 4.6 Check that the water is heating correctly & that the thermostat operates when the set temperature is reached.

5.0 WATER QUALITY

- 5.1 Your HJ Cooper water heater has been manufactured to suit most New Zealand council water supplies. However, some water supplies can have a detrimental effect on the water heater, its operation & life expectancy.
- 5.2 Water supplies with a high level of calcium carbonate ("hard" water) can cause scaling on hot surfaces. We recommend a water temperature of no more than 65°C to minimise scale build-up. Scale reducing or water softening devices should be considered in "hard" water areas. Your unit is not guaranteed against damage due to scaling. Anodes should only be replaced by a suitably qualified person.

- 5.3 An anode has been installed in this water heater. This anode is designed to dissipate gradually in order to protect the internal lining of the cylinder.
- 5.4 The anode should be checked every 2-3 years & replaced if necessary to extend the life of your water heater. Anodes should only be replaced by a suitably qualified person.
- 5.5 During periods of non use (one to two weeks) it may be possible for hydrogen to build up at the top of the cylinder. We recommend that after periods of non use and before using any electrical appliance, connected to the water heater, the following procedure is carried out:

CAUTION PLEASE READ CAREFULLY

The hydrogen is vented safely by opening a hot tap and allowing water to flow freely. Any hydrogen present in the system will be dissipated through the open tap. As hydrogen is a flammable gas there should be no naked flame near the open tap.

6.0 MAINTENANCE

- 6.1 The operation of the TPR valve should be checked every 6 months. To do this, slowly manually raise the lever on the top of the valve & allow a small quantity of water to flow from the valve. **NOTE:** The water discharge may be very hot so care must be taken. Check that the water discharged flows freely through the drain pipe. Close the valve by releasing the lever and check that the flow stops & the valve reseals correctly.
- 6.2 If a cold water expansion valve is fitted the same checks as detailed above for the TPR valve should be carried out.
- 6.3 In a "hard" water area the elements must be periodically de-scaled. To do this the unit must be drained and elements must be removed. Ensure the electrical supply to the water heater is disconnected before doing this. To remove the element first remove the terminal cover. This is secured by two screws. Disconnect the electrical wiring connections from the heating element by carefully pulling away from the heater. **DO NOT** twist or lever the push on terminals as damage to the element connections may occur. Using the key spanner supplied with the unit unscrew the brass backnut securing the element and remove the element from the boss. If the element is scaled the scale deposit should be carefully removed. Replacement of the element is a reversal of the above process. It may be of help to support the element when tightening the backnut by inserting a round bladed screwdriver into one of the thermostat pockets on the element plate.
- 6.4 Always ensure the water heater is completely refilled before switching on the electrical supply again.
- 6.5 HJ Cooper recommends that your water heater be checked on an annual basis to ensure that it is working safely and efficiently.
- 6.6 In order to extend your warranty to the full five year term and to keep your HJ Cooper water heater working at peak efficiency, this water heater must be serviced within thirty days of the third anniversary of the installation date. All valves, control devices and filters must be checked by a competent person and particular attention should be given to the correct operation of all safety devices i.e. Temperature and pressure relief valve and over temperature cut out. A record of this service must be kept for verification purposes.
- 6.7 The cost of any maintenance is the responsibility of the owner.

7.0 USER INSTRUCTIONS

- 7.1 The water heater heats the stored water by means of the fitted electric immersion heater. When the electricity supply is turned on the water will heat up to the temperature set on the integral thermostat, when the set temperature is reached the thermostat will interrupt the electrical supply to the element. As the water cools or when water is drawn from the unit the thermostat will cycle to maintain the set temperature.
- 7.2 As water is heated in a mains pressure system it will expand and raise the system pressure. When the lifting pressure of the cold water expansion valve is reached a small quantity of water will be discharged from the valve. This is normal and does not indicate a fault with your system.
- 7.3 The thermostat is fitted with an integral over-temperature cut-out. If the thermostat should malfunction this will prevent the unit from reaching excessive temperatures. When the unit has cooled down the cut-out can be reset by pushing in the small button on the thermostat (see wiring diagram on page 4 for position).
NOTE: Investigate the reason for operation of the cut-out before resetting. **DISCONNECT THE ELECTRICAL SUPPLY TO THE HEATER BEFORE OPENING THE IMMERSION HEATER COVER.**
- 7.4 The water heater is fitted with temperature and pressure relief valve (TPR). In the unlikely event of a total temperature control failure or an over pressure situation this valve will discharge water to maintain the safety of the system. The outlet or drain from the TPR valve **MUST NEVER BE BLOCKED.**
- 7.5 To ensure the optimum operation of your water heater it must be regularly maintained. See section 7.0 Maintenance for details. Failure of the water heater due to lack of maintenance will not be covered under warranty.
- 7.6 Milky water coming from a hot tap is due to dissolved oxygen being released. It is the sign of a well aerated water supply and does not indicate a fault with the water heater.

8.0 WARRANTY

- 8.1 HJ Cooper domestic water heater ceramic lined steel comes with a comprehensive one year warranty on the water heater and components and a guarantee to replace or repair your water heater internal pressure vessel for a period of five years from the date of manufacture subject to the terms and conditions set out below.
- 8.2 First twelve months from date of installation, HJ Cooper will replace or repair free of charge (except for certain transport and travelling time costs which may be payable by the owner, as outlined in the exclusions of this warranty, section 9.0) this domestic water heater or part if it fails due to faulty manufacture.
- 8.3 Year two and three from the date of installation HJ Cooper will replace or repair free of charge (except for certain transport and travelling time costs which may be payable by the owner, as outlined in the exclusions of this warranty) this domestic water heater if the pressure vessel fails due to faulty manufacture.
- 8.4 Year four and five from the date of installation HJ Cooper will replace or repair free of charge this domestic water heater if the pressure vessel fails due to faulty manufacture. The cost of removal of the water heater, reinstallation and labour costs are the responsibility of the owner.

8.6 Your HJ Cooper water heater has been manufactured to suit water that complies with the Drinking-Water Standards for New Zealand 2000 (details available at www.moh.govt.nz). If you are unsure of your water quality you can obtain information from your local water authority. Roof, bore and water not treated at a municipal plant may be corrosive and will affect the operation and life expectancy of the water heater. Do not use untreated water without first conducting an assessment of water corrosivity and consulting an HJ Cooper representative.

9.0 EXCLUSIONS TO THIS WARRANTY

- 9.1 The water heater must be installed by a competent and registered plumber and the installation must comply with the New Zealand Building Code, AS/NZS 3000, HJ Cooper installation instructions and all local codes and regulatory authority requirements. Proof of compliance must be provided in order to validate any warranty claim.
- 9.2 This water heater being subjected to negative pressure or pressures in excess of the maximum pressure rating on the label.
- 9.3 Excessive heat input.
- 9.4 Misuse, alteration or repair work to the water heater not authorised by HJ Cooper.
- 9.5 Failure of the water heater induced by chemical reaction of aggressive water or any other substances introduced artificially into the water supply.
- 9.6 Damage to the water heater due to the replacement of elements or thermostats.
- 9.7 The failure of valves, fuses, pumps and plumbing supplied by the installer.
- 9.8 If the water heater is installed in excess of 25 kilometres from an HJ Cooper service agent additional cartage and mileage charges will be the responsibility of the owner.
- 9.9 Consequential loss.
- 9.10 Any claim must be made within 30 days from detection of the defect.
- 9.11 HJ Cooper's obligation under this warranty is limited to replacement or repair of the hot water heater and HJ Cooper is not responsible for any consequential loss either directly or indirectly due to leakage of the hot water heater or system.
- 9.12 This warranty only applies to New Zealand.
- 9.13 **THIS GUARANTEE DOES NOT AFFECT YOUR STATUTORY RIGHTS.**

10.0 ENVIRONMENTAL INFORMATION

HJ Cooper products are manufactured from many recyclable materials. At the end of their useful life they should be disposed of at a recycling centre in order to realise the full environmental benefits.



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