



**OWNER'S MANUAL
WARRANTY INFORMATION AND
INSTALLATION INSTRUCTIONS**

“TITAN”

**COMMERCIAL ELECTRIC STORAGE
WATER HEATER**

MODELS:

50C3, 315C3, 315C6, 400C3, 400C6

FOR ADVICE, REPAIRS AND SERVICE:

**1300 365 115 (AUSTRALIA)
0800 729 389 (NEW ZEALAND)**

Effective for all Mains Pressure Commercial Storage Hot Water Units manufactured and sold after the 1st July 2004

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**PLEASE READ THIS BOOKLET CAREFULLY
A FEW MINUTES SPENT NOW MAY SAVE YOU TIME
AND TROUBLE LATER**

WELCOME TO NEW GENERATION HOT WATER

Your decision to purchase a Dux water heater will reward you for many years to come.

Since 1915, the Dux range has seen continuous research and development, resulting in many breakthroughs in the efficiency, reliability and longevity of hot water systems.

Dux water heaters are manufactured in Australia in a state-of-the-art facility, using a Quality Endorsed production system

This is your assurance that you have purchased the highest quality water heater available, one that will provide continuous hot water for all your needs - safely, economically, and for many years to come.

FEATURES OF YOUR DUX ELECTRIC WATER HEATER

- Unique Positive Domed, butt welded tank provides superior corrosion resistance, resulting in longer life.
- Advanced heating design for better reliability.
- High efficiency design.

WARRANTY RETURN CARD

Enclosed you will find a warranty card - please fill in the details and return immediately. This will ensure prompt service under warranty, if required.

Product Warranty only applicable in Australia and New Zealand.
See page 13 for terms of warranty.

Privacy Act Amendment 2000; If and whenever warranty service is required, your personal details will only be given to an Authorised Dux Service Agent for the express purpose of carrying out the arranged warranty service work agreed by you the client and Dux Manufacturing Limited.

APPLIANCE DETAILS

For future convenience, would you kindly fill in the following details and retain with your original invoice for your own records.

Surname:..... Given Name(s):.....

Address:.....

Town/Suburb:.....

State/Territory:..... Postcode:.....

Date of Purchase:..... Purchased From:.....

Model:..... Serial Number:.....

Date of Manufacture:.....

(Details on Data Plate on water heater)

Date of Installation:..... Installer's Name:.....

Address:.....

Installer's Signature:.....

SERVICE DETAILS

Date of Service:..... Serviced By:.....

Work Carried Out:.....

.....

.....

Signature of Service Agent:.....

INSTALLATION

This water heater must be installed by an Authorised Person, and in accordance with

- AS/NZS3500.4 “National Plumbing and Drainage Code, Part 4: Hot Water Supply Systems”;
- AS/NZS 3000 “Wiring Rules”
- Local authority regulations.

Note: *This water heater is not suitable for pool heating.*

This water heater is designed for direct connection to water supply pressures of:

- 50, 315 & 400 Litre Models 800kPa

Where the mains pressure can exceed or fluctuate beyond the pressure shown above, a pressure limiting device (complying with AS1357) must be fitted in the cold water inlet supply. This device must be installed after the isolating valve and set at or below the pressure shown above.

For technical details and installation queries, please phone 1300 365 115 or contact your local Dux agent.

CAUTION: This water heater delivers hot water at temperatures exceeding 50°C. Refer to AS/NZS3500 and local regulations regarding the need for additional hot water delivery temperature control.

LOCATION

The water heater may be connected in individually or in multiple banks of up to 8 heaters per bank using standard plumbing procedures and sizes. Adequate access must be made for service to the elements, thermostats, relief valve(s) and anode. Ensure that the data label is clearly visible.

Note: *All models are equipped with a sacrificial anode, accessible through the top cover. Allow 50% of the height of the water heater for clearance above to replace the anode.*

The water heater should be placed on a plinth if installed on a floor subject to wet conditions or outdoors. A properly drained overflow tray should be used where property damage could occur from water spillage. (See AS3500.4 for further details.)

Do not install this heater in a roof area.

Note: *The warranty does not cover damage due to leakage of the water heater.*

PRESSURE & TEMPERATURE RELIEF VALVE

The Pressure & Temperature relief valve(s) supplied with the water heater are shown below:

<i>Model</i>	<i>Number of valves</i>	<i>Rating (kPa)</i>
50C3, 315C3, 315C6, 400C3 & 400C6	1 x HT575 or similar rated at 46kW or greater	1000

Valve threads are RP $\frac{3}{4}$ /20. The relief valve(s) must be installed directly into the top socket marked "RELIEF VALVE."

The drain / discharge line from the relief valve must be installed in a continuously downward direction and the discharge end left open to atmosphere permanently in a frost free ambient environment. The Pressure & Temperature Relief Valve supplied with the water heater is not sufficient to enable connection of the water heater to supplementary energy sources such as solar panels or slow combustion stoves (refer AS/NZS 3500.4.2 for guidance on these types of installations)

COLD WATER CONNECTION

An approved isolating valve, approved non return valve, line strainer (optional but recommended), and union must be fitted between the supply main and the RP1 $\frac{1}{4}$ /32 socket in the water heater. All fittings must be approved by the relevant Authority. See the Installation Diagram for details.

Note for S.A. and W.A.: It is a state requirement that a pressure relief valve be fitted on the cold water supply line between the non return valve and the water heater (refer to Installation Diagram).

Warning: A separate drain line must be run for this relief valve. It is not permitted to couple drain lines from relief valves into a single common drain line.

HOT WATER CONNECTION

The hot water pipe should be connected to the RP1 $\frac{1}{4}$ /32 socket as shown in Installation Diagram. An RP $\frac{3}{4}$ /20 socket is provided for a ring main return.

ELECTRICAL CONNECTION

This water heater is designed for 3-phase 415V A.C supply, to be star connected only. The electrical connection must comply with Local Supply Authority Regulations and AS3000.

This includes a requirement for the installer to

- ensure that all PVC supply wiring has a temperature rating of 90°C or higher
- provide a means of disconnection, with an air-gap contact separation in all active phases, in the fixed wiring in accordance with AS/NZS3000.

Connections are made at the terminal block inside the water heater. Entry to the connection area is through the bottom of the appropriate element cover. Ensure that the conduit entry is well sealed to achieve correct weatherproofing. This water heater must be connected with wire of appropriate temperature rating (temperature rise of elements is 55K)

Note: *This water heater is fitted with multiple thermostats and over-temperature energy cut-outs. Under no circumstances should the water heater be operated without these devices being in the circuit. Replacement must be carried out only by a qualified electrician or the manufacturer.*

DANGER - *The operation of the thermal cut-out indicates a possibly dangerous situation. Do NOT reset the thermal cutout until the water heater has been serviced by a qualified person.*

Caution: *The water heater must be filled with water before turning on the electricity supply. (See "FILLING THE WATER HEATER")*

THERMOSTAT

This water heater is designed to deliver water at a maximum temperature of 82°C. Any adjustment of the temperature to suit individual needs can be carried out by an electrician.

Electrician: *Press reset button on thermostat(s) to ensure over-temperature cut-out is set.*

FILLING THE WATER HEATER

Open all hot water taps. Open isolating valve at the cold water inlet and allow water heater to fill until water flows through the system. Close each hot water tap after the air is expelled from its line.

WATER QUALITY

Your Dux water heater has been manufactured to suit water conditions of most Australian metropolitan supplies. Please note that harsh water supplies can have a detrimental effect on the water heater and its life expectancy. If you are unsure about your water quality you can obtain information from your local water supply authority.

The water heater is designed for use in areas where the Total Dissolved Solids (TDS) content of the water supply is less than 2500 mg/L. In areas where the TDS exceeds

600mg/L it is possible that the magnesium alloy anode (supplied in the heater) may become over reactive. To alleviate this, the magnesium alloy anode should be replaced with an aluminium alloy anode, available from your local Dux supplier.

Water can also be very corrosive, the measure of this is the saturation index, if the water saturation index is greater than 0.40 a expansion control valve should be fitted and where the index is greater than 0.80 the water heater installed should be a Hard Water Model. Please consult our Service Department for advise if required.

CAUTION!

If the water heater is left in an operating condition and unused for two weeks or more, a quantity of hydrogen (which is highly flammable) may accumulate in the top of the water cylinder. To dissipate this gas safely it is recommended that a hot tap be turned on for several minutes at a sink, basin or bath, but not a dishwasher, clothes washer or other appliance. During this procedure there must be no smoking, open flame or any other electrical appliance operating nearby. If hydrogen is discharged through the tap it will probably make an unusual sound as with air escaping.

OPERATING INSTRUCTIONS

The appliance is not intended for use by young children or infirm persons without supervision. Young children should be supervised to ensure that they do not play with the appliance.

SAFETY INFORMATION

WARNING: FOR SAFE PERFORMANCE THIS WATER HEATER IS FITTED WITH:

1. Thermostats.
2. Over-temperature energy cut-outs.
3. Combination Pressure & Temperature relief valve(s).

These devices must not be tampered with or removed.

The water heater must not be operated unless all of these devices are fitted and in working order.

The element cover should be removed only by an electrician.

The Pressure & Temperature relief valves should be checked for adequate performance or replaced at intervals not exceeding 5 years, or less in areas where local regulations apply. The lever on the relief valve must be pulled to operate the valve at least once every 6 months to remove lime deposits and verify that the valve is not blocked. Failure to operate the relief valve easing gear at least once every six (6) months may result in the water heater exploding.

IMPORTANT

The Pressure & Temperature relief valve(s) and the drain outlet pipe must not be sealed or blocked. It is normal for the valve(s) to discharge during heating cycles.

RECOGNITION OF ABNORMAL OPERATION

Check the items below before incurring a service call. Service may be obtained from your Dux agent or by ringing:

Australia: **1300 365 115** *New Zealand:* **0800 729 389**

1. Pressure & Temperature Relief Valve(s) Running

It is not unusual for this to allow a small quantity of water to escape during the heating cycle. The amount of discharge will depend on hot water usage - greater usage will incur more discharge.

Continuous trickle:

Likely build up of foreign matter. Try gently raising the easing lever on the Pressure & Temperature relief valve(s) for a few seconds. This may dislodge a small particle of foreign matter and rectify the fault. **Note:** *Release lever gently.*

Steady flow:

Likely causes are excessive water supply pressure, a faulty Pressure & Temperature relief valve(s) or a faulty thermostat. Turn off the electricity supply and contact your Dux agent.

2. No Hot Water

Is the Pressure & Temperature relief valve(s) discharging too much water? See "*Pressure & Temperature Relief Valve(s) Running*".

Is your system sized correctly for your requirements? Sizing details are available from your Dux supplier.

Is one or more outlet using more hot water than you think?

Carefully review the hot water usage. If it is not possible to adjust water usage patterns, an inexpensive flow control valve can easily be fitted to a range of outlets, particularly shower outlets to reduce consumption.

3. High Electricity Bills

Is the Pressure & Temperature relief valve discharging too much water? See "*Pressure & Temperature Relief Valve(s) Running*".

Is one or more outlets using more hot water than you think? See "*No Hot Water*".

Is there a leaking hot water pipe or dripping hot water taps? A small leak can waste a large quantity of hot water.

Replace faulty tap washers and have your plumber rectify any leaking pipework.

SIX MONTHLY SERVICE (BY OWNER)

Operate the Pressure & Temperature relief valve(s) for approximately 10 seconds by raising the easing lever on the valve to ensure water is relieved to waste through the relief drain pipe. Check to ensure the valve closes correctly.

THREE YEAR SERVICE (BY AUTHORISED PERSONNEL ONLY)

The three yearly service should be carried out by an Authorised Person. It is recommended that this service be carried out by your local Dux agent. The service should include the following:

- Replace the Pressure & Temperature relief valve(s).
- Replace the anode. (in areas of harsh or adverse water conditions it is recommended that you carry out a more frequent check of your anodes condition, refer Operating Instructions 'Water Quality')
- Flush the heater.

SERVICE INSTRUCTIONS

To drain and flush the water heater:

- (i) Turn off the power.
- (ii) Turn off the cold water supply to the water heater at the isolating valve.
- (iii) Gently operate the easing lever on the Pressure & Temperature relief valve to release the pressure in the water heater.
- (iv) Disconnect the cold water inlet union to the heater and attach a drain hose.
- (v) Gently operate the Pressure & Temperature relief valve to let air into the heater and allow water to escape through the hose.
- (vi) To flush the heater, carry out steps (i) to (iv) above. Disconnect the hot water inlet union and attach a water supply hose to the heater. Turn on the water supply.
- (vii) Flush the heater until clear water appears. Reconnect all fittings, fill the heater and restore the electricity supply.

To replace a thermostat:

- (i) Disconnect the electricity supply to the water heater.
- (ii) Remove element cover.
- (iii) Disconnect all the wires from the thermostat and remove from the bracket by sliding upwards and away from the heater.

- (iv) Insert the new thermostat into the bracket and connect the wires according to the wiring diagram inside the element cover.
- (v) Press the reset button on the thermostat to ensure that the over-temperature cut-out is set.
- (vi) Refit the element cover and restore the electricity supply to the heater.

To replace an element:

Before removing element cover, disconnect the electricity supply to the water heater.

- (i) Turn off the cold water supply and drain the heater. To replace the element, it will be necessary to drain the water beyond the level of the element.
- (ii) Disconnect element wires from the terminals on the thermostat. Remove the four hexagonal element bolts. Carefully remove the element and ensure that the gasket separates cleanly from the heater. Refit the new element and new gasket.
- (iii) Loosely fit the bottom bolts. Reposition the thermostat bracket and fit the top bolts. Tighten evenly to obtain seal. Reconnect the water supply and refill the heater. Check for leaks round the newly installed element gasket.
- (iv) If no leaks are evident, connect the element wiring, refit the element cover and restore the electricity supply.

Caution: Ensure the water heater is filled with water before turning on the electricity supply. (See *"Filling the Water Heater"*)

To replace the anode:

Note: Refer to the section on "Water Quality" in the Installation Instructions for information about the type of anode required for different supply areas. Information about the Total Dissolved Solids in the water supply can be obtained from the local water authority.

- (i) Turn off cold water supply.
- (ii) Release pressure in the heater by easing the lever on the Pressure & Temperature relief valve.
- (iii) Remove the plug from the top of the case.
- (iv) Unscrew the anode nut using a 27mm (1 1/16") socket.
- (v) Remove the anode

The reverse procedure will replace an anode.

Dux Hot Water Unit

Manufactured by Dux Manufacturing Limited ("Dux")
Terms of Warranty and Replacement Guarantee

Effective for all Mains Pressure Commercial Storage Hot Water Heaters manufactured and sold after 1st July 2002.

THE DUX HOT WATER UNIT THAT YOU HAVE PURCHASED COMES WITH A COMPREHENSIVE 1 YEAR PARTS AND LABOUR WARRANTY AND A GUARANTEE TO REPLACE YOUR HOT WATER UNIT IF THE INNER CYLINDER FAILS WITHIN 5 YEARS. The terms of the Warranty and replacement guarantee are set out below.

WARRANTY

1. Your hot water unit and its components are covered by a 1 year warranty against defective factory parts or workmanship from the date your hot water unit is installed. If the date of installation is unknown, the warranty commences 1 month after the date of manufacture (which can be found on the serial plate on the hot water unit).
2. This warranty is for normal use of the hot water unit and covers the repair and/or replacement of any failed component in the hot water unit or where necessary, the hot water unit itself. Under this warranty Dux will repair or replace the component or hot water unit free of charge (except for certain transport or travelling time costs which may be payable by the owner under clause 9 below). The decision to repair or replace the component or hot water unit will be entirely at the discretion of Dux.
3. The warranty only applies to defects in the hot water unit which have arisen solely due to faulty materials or workmanship.

5 Year Replacement Guarantee.

4. If an inner cylinder fails on a Dux hot water unit within a further 4 years after the end of the 1 year warranty period, Dux will provide a free replacement hot water unit at the nearest approved Dux agent or Dux office to the owners home. Under this replacement guarantee, the transport, installation and labour costs of delivering the replacement hot water unit and removing and replacing the existing hot water unit with the replacement hot water unit will be charged to the responsibility of the owner of the existing hot water unit.

Scope of Warranty and Guarantee

5. The warranty and replacement guarantee do not apply to any defects or damage not due to faulty factory parts or workmanship, including but not limited to defects or damage caused by or resulting from:-
 - a) accidental damage, abuse, misuse, maltreatment, abnormal stress or strain, harsh or adverse water conditions, contamination or corrosion from particles in the water supply, excessive water pressure or temperature or neglect of any kind to the hot water unit or its components.
 - b) alteration or repair of the hot water unit other than by an approved Dux agent or a Technician of a gas or electricity utility approved by Dux.
 - c) attachment of any parts or accessories other than those manufactured or approved by Dux; and
 - d) faulty or improper installation of the hot water unit, including installation otherwise than in accordance with the instructions contained in the owner's manual supplied by Dux.
6. The warranty only applies to the hot water unit and/or components in the hot water unit and does not cover any plumbing or associated parts, including but not limited to, pressure limiting valves, stop cocks, non return valves, electrical switches, pumps or fuses, supplied by any person installing the hot water unit.
7. Where a hot water unit or a component in a hot water unit is replaced by Dux, the balance of any original warranty or replacement guarantee period will remain effective. The replacement part or hot water unit does not carry any additional warranty or replacement guarantee.

8. Where the hot water is located outside the metropolitan area of a capital city and is:-

- a) more than 25 kilometres from a Dux office; or
- b) more than 25 kilometres from a Dux agent

the owner will be responsible under the warranty, for paying the costs of transporting the hot water unit or any component in the hot water unit to and from an approved Dux agent or to a Dux office (including the costs of any insurance associated with that transport) or paying the travelling time of an approved Dux agent to and from the owner's house premises.

9. Where the warranty applies but the hot water unit is installed or located in a position that does not comply with the Dux installation instructions or any relevant statutory requirements, the owner of the hot water unit will be responsible for the costs of:-

- a) the dismantling or removal of cupboards, doors, walls of special equipment and
- b) any labour required.

to gain access to and to bring the unit to a position that complies with the installation instructions or relevant statutory requirements.

10. Dux's obligations under this warranty and replacement guarantee are limited to repairing or replacing the hot water unit or components. To the extent permitted by law, Dux will not be liable for any loss or damage to furniture, carpets, walls, foundations or any other consequential loss of any kind caused by a defect in the hot water unit or any component.

11. Any claim under the warranty or replacement guarantee must include full details of the defect and/or damage to the hot water unit and/or component in the hot water unit. All claims must be made within one month of the detection of the defect.

12. In addition to this warranty and replacement guarantee, certain legislation (including the Trade Practices Act 1974 and consumer protection legislation of the States and Territories) gives the owner certain rights which cannot be excluded, restricted or modified. Nothing in this warranty and replacement guarantee has the effect of excluding, restricting or modifying those rights.

13. In the case of a hot water unit acquired for other than personal domestic or household use, Dux's liability for a breach of a condition or warranty implied by Division 2 of Part V (other than Section 69) of the Trade Practices Act (1974) and any equivalent State or Territory legislation is expressly limited to any one or more of the following, as determined by Dux:-

- a) the replacement of the hot water unit;
- b) the repair of the hot water unit;
- c) the payment of the cost of replacing the hot water unit or of acquiring an equivalent hot water unit;
- d) payment of the cost of having the hot water unit repaired.